University of Alberta

Cognitive Processing and Remediation in Young Offender Recidivists: A Case Study Analysis

By

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©

A thesis submitted to the Faculty of Graduate Studies and Research in partial fulfillment

of the requirements for the degree of Doctor of Philosophy

in

Special Education

Department of Educational Psychology

Edmonton, Alberta

Fall, 2004

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395, rue Wellington
Ottawa ON K1A 0N4
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Your file Votre référence
ISBN: 0-612-95903-1
Our file Notre référence
ISBN: 0-612-95903-1

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Acknowledgements

First and foremost, I would like to thank the young men who volunteered for my study. Without their commitment and perseverance, this thesis would not have been possible.

A sincere thank-you to my thesis advisor, Dr. Fern Snart for her continued guidance, encouragement and support. I would also like to thank Dr. Das, Dr. Rinaldi, Dr. Bibby, Dr. Wilgosh, and Dr. Samuels for their support and scholarly suggestions. The time, effort and feedback that they so generously provided throughout the writing of this thesis is greatly appreciated. A special thanks to Dr. Das for all his hard work on the PASS theory, which has proven invaluable when working with young offenders.

A special thanks to Nicole for outstanding assistance in editing this document, and to Allison Stewart, for "always being there". Thank you, as well, to colleagues and friends for their ongoing interest and support during this time.

I also want to acknowledge and thank my children, children-in-law and grandchildren, Warren, Lynda, Ethan, Jacob, Dave, Angèle, Nicole, Mike, Grace, Wee One on the Way, Cory, and Renée, for their unending support, patience and understanding throughout this at times arduous process.

Finally and most importantly, I would like to extend my deepest thanks to my husband Bob whose unwavering support, encouragement and love ensured the success of this journey.

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CHAPTER 1

Introduction

Two distinct types of young offenders have been identified: early onset (recidivists) and adolescent onset. Recidivists usually have a history of behavioral and psychiatric difficulties dating back to childhood, while adolescent onset offenders characteristically begin to offend as they enter adolescence and desist as they mature, with few continuing their antisocial/criminal activities into adulthood (Moffitt, Caspi, Dickson, Silva, & Stanton, 1996). The focus of this case study was on recidivists. The behavioral difficulties experienced by young offender recidivists (adolescents 12 to 17 years of age convicted under the Young Offenders Act) have been the focus of much research. Yet the problem of youthful offending persists, perpetrators are getting younger (Sadler, 1997) and the number of young offenders (YOs) in secure custody continues to increase (Statistics Canada, 1999). Recidivism (re-offending) is also on the rise, from approximately 30% in the 1980s (Lawson & Sanet, 1992) to approximately 40% in the 1990s (Archibald, Brown, & Cicchetti, 1992). Canada's overall rate in 1996 - 1997 was 42%, with rates for "early onset" delinquents at 50% (Canadian Center for Justice, 1998). Those most likely to recidivate begin their career at an earlier age, show the poorest academic performance, commit more serious and violent offences, and consequently spend more time incarcerated (Kowalski & Caputo, 1999; Maguin & Loeber, 1996). In Canada, the cost of keeping one young offender in secure custody has been estimated to be approximately $100,000 a year (Federal Justice Minister Anne McLellan, *Examiner*, November 12, 1999).

As tempting as it might be given the recent increase in violent crimes by youth, to suggest that frequent/severe punishment will deter youthful offenders, there is no empirical support for such a position. Research on the topic indicates that repeated punishment in an attempt to change delinquent behavior is an "expensive failure" (Goldson, 1999, p.5) with a "net destructive effect" that serves "primarily to worsen the rates of recidivism" (McGuire, 1995, p. 10). Thus, it would seem more expedient in terms of reduced monetary cost and human suffering to investigate the impact of remediation on recidivism rather than to continue incarcerating these young people at an ever increasing rate.

Although the idea of changing the behaviours of YOs through remediation rather than punishment has been ongoing for decades, this type of thinking has remained secondary to the idea of punishment. Approaches to remediation have varied considerably, but the most significant findings have consistently linked remediation of academic difficulties with reduced recidivism rates (Archwamety & Katsiyannis, 2000; Katsiyannis & Archwamety, 1999; Maguin & Loeber, 1996; Simpson, Swanson, & Kunkel, 1992).

Ongoing academic difficulties are likely the result of multifaceted circumstances including cognitive processing difficulties. A promising area of international research dealing with remediation has linked sensory/perceptual processing difficulties in YO populations to delinquency (Dzik, 1966; Kaseno, 1985; Penner, 1982; Pitt, 1990; Stehli, 1990) and these difficulties no doubt underlie many of the cognitive challenges that these young people experience. However, it is likely that the cognitive processing challenges of YOs are the result of an interaction of many developmental variables in addition to sensory/perceptual difficulties, such as general health (nutrition, etc.) and familial and social factors (Batshaw & Perret, 1992; Canadian Center for Justice, 1998; Cramer & Ellis, 1996; Lawson & Sanet, 1992; McCord, 2000). Difficulties in any of these areas (in unison or combination) could conceivably lead to cognitive processing difficulties and subsequent academic underachievement.

A review of studies reporting success of academic remediation with YO recidivists suggests the importance of a structured, focused approach, and a cognitive component which encompasses sensory/perceptual areas. One neuropsychologically based cognitive approach which meets all of these criteria, and for which early research has shown relevance for YOs is the PASS Reading Enhancement Program (PREP) based on the PASS (Planning, Attention, Simultaneous, and Successive) model of Das and associates (Das & Abbott, 1995; Naglieri & Das, 1997). The purpose of this study was to provide detailed information on the process and effects of PREP with YO recidivists, using the instrumental case study, based on case descriptions of a small number of participants. As well, it offered heightened understanding of the participants' experiences with the remedial program.

CHAPTER 2

Literature Review

The article that initially inspired this study was a review by Lawson and Sanet (1992) in which the authors discussed the link between sensory/perceptual processing difficulties, offending, remediation of these difficulties, and the impact of remediation on recidivism. Familiarity with the PASS theory of cognitive functioning led to its selection as an appropriate theoretical framework for the study. The author proceeded with a literature review based on the premise that a link exists between persistent offending behavior and cognitive processing difficulties.

Information regarding cognitive processing difficulties and behavior/learning problems among YOs is scattered throughout various educational, medical, and correctional journals as well as institutional and government reports. Consistent findings suggest that challenging family and social situations, early developmental deprivation, and sensory/perceptual difficulties inter-relate to contribute to cognitive difficulties for many YOs (Batshaw & Perret, 1992; Canadian Center for Justice, 1998; Cramer & Ellis, 1996; Lawson & Sanet, 1992; McCord, 2000). Understanding of the inter-relatedness of these factors furthers our comprehension of why language and executive functioning, in this population, have been a central area of focus to date (Caspi & Moffitt, 1995).

Although there has been some success in reducing recidivism, the results are somewhat unclear due to the various measures used to assess recidivism (Coffey & Gemignani 1994; Cunliffe 1992; Maguin & Loeber 1996; Simpson, Swanson, & Kunkel 1992). The studies summarized in the current review are representative of those in the historical and current literature. The results over several decades and across several continents appear to lead to similar considerations and conclusions, but frequently present methodological challenges. Consequently, the present study may still be considered confirmatory in nature.

Developmental Variables and Cognitive Functioning in YOs

Some of the more salient developmental areas implicated in the cognitive functioning of YOs include familial and social factors, and general health including nutrition, with sensory/perceptual processing particularly vulnerable to delay or dysfunction (Batshaw & Perret, 1992; Canadian Center for Justice, 1998; Cramer & Ellis, 1996; Lawson & Sanet, 1992; McCord, 2000). Disentangling the overlap and relative impact of these variables is impossible since they are obviously interactive at all times, but the discussion will proceed topically for ease of organization.

Family/Social Circumstances and Cognitive Functioning.

Children who are from abusive and neglectful homes, as is often the case for young offenders, grow up in environments that fail to provide them with constant and appropriate opportunities to guide their development (Hildyard & Wolfe, 2002). Environmental influences constantly modify the process of early brain development/cognitive functioning in an experience-dependent manner (Glaser, 2000). Child abuse and neglect are among the most pernicious environmental influences known to negatively impact brain development and cognitive functioning. Many studies have shown that abuse and/or neglect can have a deleterious and enduring negative impact on a child's brain development, cognitive functioning, and developmental adaptation

(Dubowitz, Papas, Black, & Starr, 2002; Egeland, Yates, Appleyard, & van Dulmen, 2002; Glasser, 2000; Hildyard & Wolfe, 2002; Kramer, LaRue, & Gergen, 1995; Teicher, 2002; Walsh, 1990).

Child abuse and/or neglect characteristically begin at an early age, and consequently can have a pervasive and cumulative negative impact on children's early competency across major developmental dimensions (Hildyard & Wolfe, 2002). Maltreatment may deflect normal development in a way that initiates a deviant pathway towards a variety of problems, including cognitive, social, emotional, and behavioral adaptive difficulties (Egeland, Yates, Appleyard, & van Dulmen, 2002; Glasser, 2000; Hildyard & Wolfe, 2002). These deviations at certain critical stages of development may result in delays or absences of the development of certain skills, as subsequent developmental tasks build upon previous milestones and competencies (Glasser, 2000; Hildyard & Wolfe, 2002). As a result, maltreated children often fail to achieve important milestones and consequently continue to experience difficulties with normal developmental tasks (Hildyard & Wolfe, 2002).

Factors shown by research to increase a child's vulnerability to abuse and/or neglect include single parenthood, chronic poverty, low maternal education, serious caregiver deficits, substance abuse, and family breakup (Dubowitz, Papas, Black, & Starr, 2002; Glasser, 2000; Hildyard & Wolfe, 2002; Kramer, LaRue, & Gergen, 1995; Stratheam, Grey, O'Callaghan, & Wood, 2001; Walsh, 1990). Research indicates that lower income and lower education of the caregiver were independently associated with cognitive functioning difficulties in their children (Kramer, LaRue, & Gergen, 1995).

Poverty and lack of education may have an impact on a mother's problem solving abilities, understanding of normal developmental milestones, and maternal resources which may in turn affect parent-child interactions and relationships, and conceivably lead to poorer language skills and intellectual functioning (Dubowitz, Papas, Black, & Starr, 2002; Egeland, Yates, Appleyard, & van Dulmen, 2002; Hildyard & Wolfe, 2002; Stratheam, Grey, O'Callaghan, & Wood, 2001; Walsh, 1990).

Coming from a family where there are low educational aspirations, little encouragement for learning, limited language stimulation, and basic unresponsiveness to a child's achievements, not only lead to language difficulties but also undermine school success (Kurtz, Gaudin, Wodarski, & Howing, 1993). There are also lasting negative consequences for later reading success that result from coming from a disadvantaged home environment where pre-reading experiences are limited (Snowling, Dariuss, Bowyer-Crane, & Tobin, 2000). Frequent reading to children during their first few years of life provides them with an opportunity to develop their listening, language, thinking and future reading skills (Athey, 2001; Neville & Bruer, 2001; Snowling et al., 2000), not to mention the mental and emotional nurturing that occurs simultaneously.

Based on the previous description of family and social circumstances that lead to abuse and neglect and subsequent cognitive functioning difficulties, it is not surprising that families of YO recidivists often present as such. Although the majority of youngsters who come from disadvantaged backgrounds are never involved with the legal system, a disproportionate number are involved in criminal activities of some kind (Tyler & Johnson, 2004). Of those involved with the legal system, only a small number become repeat offenders. One might speculate that YO recidivists are those who experience the most pervasive and chronic challenges to cognitive functioning.

A relatively common profile for YO recidivists includes an economically disadvantaged antisocial family, headed by a single mother, poor parenting, poor nutrition, developmental difficulties, learning disabilities, and school failure (Batshaw & Perret, 1992; Canadian Center for Justice, 1998; Cramer & Ellis, 1996; McCord, 2000; McDowell & Smith, 1999; Morrison & Cosden, 1997; Tyner, 1995). A great majority of these YOs have a history of behavioral difficulties dating back to early childhood, which appear to become more intensified with each passing year, eventually culminating in law breaking behaviours (Pelletier & Vitaro, 1994).

Research indicates that YOs come from homes where physical abuse occurs at considerably higher than average rates (Dembo, Williams, Fagan, Wothke, Schmeidler, & Brown 1992; Haapasalo, 2000; Heck & Walsh, 2000; Ketterlinus & Lamb, 1994). A recent report from the National Crime Prevention Council indicated that, in Ontario, 97 % of children in custody had suffered abuse at the hand of the trusted authority figure (National Crime Prevention Council, 1997). [There is little reason to believe that these rates are any different than for the rest of Canada. All five young men in this case study reported being physically abused until they were old enough to fight back or run away.] As can be expected, aggression is an ongoing behavioral concern among children and young people who have been subjected to chronic maltreatment (Bolger & Patterson, 2001; Daley & Onwuegbuzie, 2001; Ulzen & Hamilton, 1998; Veltman & Browne, 2001).

It does not seem astonishing that school is a venue where YOs do not do well, considering the family and social factors that they experience on an ongoing basis. A high percentage of YO recidivists read only at the 5th or 6th grade level (Cramer & Ellis, 1996) and the rate of learning disabilities in the overall YO population is approximately 36%, and as high as 80% in recidivist populations (Larson, 2000), compared to approximately 15% in the normal population (Crawford, 1996). This population is more than three times as likely as a nondelinquent population to have repeated a grade in school, to have been suspended from school for their behavior, to have attended four to six schools before dropping out (Coffey & Gemignani, 1994) and to have had a long history of truancy (LeBlanc & Ratnofsky, 1991). If poor grades don't force these children to voluntarily drop out, their misbehavior tends to result in expulsion. Either way, this places them on the streets where the potential for delinquency is heightened (Coffey & Gemignani, 1994; Cramer & Ellis, 1996; Gordon & Caltabiano, 1996; LeBlanc & Ratnofsky, 1991; Winters, 1997).

General Health (including nutrition) and YOs

Being subjected to a disadvantaged lifestyle as a child, including poor nutrition, increases the likelihood of developmental deficits in general (Batshaw & Perret, 1992; Tanner & Finn-Stevenson, 2002). Physical, mental, and emotional developmental functioning are affected by nutrition and lifestyle (Goldstein, 2001; Murphy, Wehler, Pagano, Little, Kleinman, & Jellinek, 1998; Solan & Mozlin, 1997; Veltman & Browne, 2001), as are daily functioning, healthy development and school performance (Goldstein, 2001; Murphy et al., 1998; Solan & Mozlin, 1997). According to Statistics Canada "the rate of childhood disabilities is twice as high for many poor children and the prevalence of psychiatric disorders and school related problems in children on welfare is double the reported rate in non-welfare families" (Taylor, 1994, p. 2). Lower-income children are more likely to experience problems with motor and social development at a young age, and are three times as likely to repeat a grade as are their peers living in more economically favorable conditions (Statistics Canada, 1998; 1999).

Some factors underlying the former findings are that the brain expends one fourth of the body's nutrition, and is most active during the early years (American Academy of Pediatrics, 2000; Lawson & Sanet, 1992). Also, research indicates that a person's brain is not fully mature until (s)he is 15-20 years of age (Neville & Bruer, 2001). This is a long developmental period during which time brain systems could conceivably be shaped by environmental input (Glasser, 2000). When a child does not receive adequate nutrition the brain will not be able to grow and/or function as required. Brain growth is also critically influenced by sensory stimulation and experience in a user-dependent manner, during early childhood (Stratheam, Grey, O'Callaghan, & Wood, 2001). Not surprising are recent findings which indicate that certain dietary deficiencies, especially during infancy, can have a long-term impact on visual functioning (Goldstein, 2001). There is evidence as well, that early changes in the auditory system as a result of deprivation and/or abnormal experiences can lead to radical changes in parts of the visual system (Neville & Bruner, 2001). Just how much the brain will suffer from lack of appropriate nutrition and environmental influences depends on the severity of these particulars, and the period of development when this deprivation occurs, as well as the chronicity of the problem (Mongeau & Larivee, 2000; Stratheam, Grey, O'Callaghan, & Wood, 2001).

In addition to the likelihood of inadequate nutrition, serious accidents as well as general health concerns are found in much higher numbers in YOs than in the general adolescent population (American Academy of Pediatrics, 2001; Bleything, 1997; Junger, Stroebe, & van der Lann, 2001; Kelly, Bair, Baillargeon, & German, 2000; Kendall-Tackett, 2002; Vannatta, 1996). This is not surprising given their background and current lifestyle.

Mental health needs are prevalent among the YO recidivist population (Kroll, Rothwell, Bradley, Shah, Bailey, & Harrington, 2002; Lyons, 2001). Indications are that these young people come to the attention of mental health services prior to incarceration, however the contact is usually quite limited (Stouthamer-Loeber & Loeber, 2002). Although they make the initial contact, there is little subsequent follow-up. Suicidal ideations as well as attempts are also not uncommon in this population (Dryfoos, 1998; Ulzen & Hamilton, 1998). Given the circumstances under which these young people have developed, mental health difficulties would perhaps be predictable.

Findings indicate that young offender recidivists abuse substances at a higher rate and start at an earlier age than do their peers, many becoming polysubstance abusers in their preteen years (Daley & Onwuegbuzie, 2001; Stouthamer-Loeber & Loeber, 2002). This is not unexpected given the strong relationship that exists between drug use and delinquency (Daley & Onwuegbuzie, 2001; Jang & Johnson, 2001; Keller, Cataleno, Haggerty, & Flemming, 2002). Becoming a poly-substance abuser as a child is likely the result of several factors, such as parental modeling, lack of appropriate supervision, and perhaps eventually as an attempt at self-medicating (Damphousse, 1995; Pagliaro, 1996; Sale, Sambrano, Spencer, & Turner, 2003). Whatever the reason, this type of abuse in formative years has the potential to seriously impair normal neurological development, and consequently overall cognitive functioning.

It is obvious from the above description that YOs are at a serious disadvantage when it comes to healthy development and "normal" cognitive functioning, and it is apparent that sensory/perceptual areas would be particularly at risk as contributors to cognitive challenge.

Sensory/Perceptual Processing Difficulties

Few published studies that address the topic of sensory/perceptual functioning in YOs have made use of random assignment and/or control groups, or provided an appropriate context for the results. However, the following two studies appear to be exceptions. Zinkus, Gottlieb, and Zinkus' (1979) study involved 55 male delinquents (average age: 15.7 years) under the jurisdiction of the juvenile court, selected at random from a larger sample in the US. The young men were evaluated with a battery of psychoeducational tests to determine intellectual, perceptual, and educational development. Achievement levels were compared with an predicted achievement level based upon the participant's age and intelligence, with the latter obtained from normative data. According to the authors, although the mean IQ for these YOs was well within the average range, their performance on reading, spelling, and arithmetic were extremely poor. Approximately 80% of YOs exhibited some type of perceptual deficits that rarely occurred in isolation. "Combined visual and auditory processing deficits were present in more than half of the subjects. The authors concluded that the perceptual capabilities of these young offenders were at a level characteristic of a much younger child" (p. 182).

Karniski, Levine, Clarke, Palfrey, and Meltzer (1982) studied 54 randomly selected delinquents from the Massachusetts Department of Youth Services. The comparison group (n=51) consisted of student volunteers, from two junior high schools and one high school, who resided in the same geographical area as the delinquents. Both groups were made of non-bilingual white males between the ages of 12-16.5 years, and there were no delinquent youngsters in the comparison group. Results from the six specific areas assessed indicated that the greatest differences in delinquents, when compared to the control group, were in their visual processing, where 22% of delinquents compared to only 4% of the control group experienced significant difficulties, and auditory-language functions, where 30% of delinquents versus only 2% of the control group experienced significant difficulties. As well, the authors found that 45% of delinquents compared to 14% of controls had at least one area of developmental lag, 18% of delinquents compared to 4% of controls were deficient in two or more neurodevelopmental areas, and 9% of delinquents and none of the comparison group had three or more dysfunctions.

Penner (1982) reviewed studies of YOs in relation to visual and auditory problems from 1930 to 1965, and Lawson and Sanet (1992) provided a review of visual problems from 1966 to 1989. Overall results indicate that the rates of visual/perceptual and auditory/perceptual difficulties were many times greater in the YO population than in the normal population. Studies consistently revealed that YOs had multiple sensory and perceptual processing deficits, as opposed to the more isolated processing deficits in the normal school age population, and that more severe impairments in academics were evident when multiple perceptual deficits were present.

There remains some controversy as to whether auditory deficits or visual deficits in isolation are a more significant factor in accounting for severe academic deficiencies observed in the delinquent population (Kaseno, 1985; Zinkus & Golliteb, 1979; Zinkus & Golliteb, 1983). However, there is general agreement that YOs suffer from multiple sensory and perceptual deficits at a much higher rate than other youngsters, with the most significant impairments involving both auditory and visual areas (Bleything, 1997; Johnson, 1989; Karniski et al., 1982). Some authors have suggested that sensory/perceptual processing difficulties (and related cognitive challenges), rather than a lack of exposure to competent instruction, may well account for most learning and behavioral problems in YOs (Zinkus & Gottlieb, 1979). Overall, the results of these studies indicate that YOs experience multiple sensory/perceptual processing difficulties, and that such difficulties appear to contribute to their cognitive difficulties and academic underachievement.

Consequently, making use of a theory of cognitive functioning, such as the PASS in an attempt to further understand sensory/perceptual processing in YO recidivists has a strong rationale. It is known that sensory/perceptual difficulties can have a significant impact on cognition, and the PASS model is sensitive to the detection of cognitive functioning. In fact, within the model a great deal of importance is placed on diagnosis and remediation of cognitive challenges (Das & Abbott, 1995), which is especially relevant when dealing with a population known to suffer from various cognitive dysfunctions (e.g., sensory/perceptual processing difficulties).

The Pass Theoretical Model of Cognitive Functioning and YOs

Several models of cognitive development have been proposed over the years (Richardson, 1998). According to Richardson (1998), the Nativist models of cognitive development purported that humans are born with a gene based faculty for learning that is fine-tuned by experience but cannot be substantially changed by it. The Associationist models of cognitive development posited that the memory registers and stores associations, based on our experience. Behaviorism is known as a more modern form of Associationism. The Constructivist model of cognitive development basically encompasses the combined ideas of both nativists and associationists. According to this model our mind constructs the world through the development of schemas (meaning units) that form as a result of our experience. In the sociocognitive model of cognitive development the society in which a child develops is emphasized. Cognitive development is seen as occurring as a result of our social interactions and the social milieu in which we live. According to Das (2002) and Luria (1973), the neuropsychological view of cognitive development focuses on functions as they relate to the developing brain. According to this view, cognitive processes are seen as including sensation, perception, attention, memory, concept formation, language, symbolic functioning, and thinking. The common thread in all cognitive development research is the "scientific study of knowledge acquisition with a focus on the development of knowledge structure, knowledge content, and the process of knowing" (Lee, 2000, p.5).

The PASS (Planning, Attention, Successive and Simultaneous) model is a relatively recent theory of cognitive functioning, based on the earlier work of Soviet neuropsychologist A. Luria (Das, 1999). Studies to date indicate that the PASS model is an appropriate alternative to traditional psychometric views of intelligence because it "(1) has been shown to have factorial validity, (2) can be effectively operationalized, (3) is related to achievement and, (4) provides a theoretical perspective from which to understand and identify exceptional students" (Das, Naglieri, & Kirby, 1994, p.23-24).

Based on neuropsychology, two main tenets of the PASS theory of cognition are that "no part of the brain works by itself" (Das, 1999a, p. 109), and that a knowledge base developed through both formal and informal learning underlies cognitive processing at any point in time. Das (1999a) has suggested that "a neuropsychological view of intelligence is different from the existing psychometric tests of intelligence; it attempts to determine how the mind works by anchoring its functions on the brain and by detecting dysfunction"(p.108)

The CAS (Cognitive Assessment System) was developed as one means of operationalizing the PASS model (Das & Naglieri, 1993), in terms of measuring planning, attention, simultaneous and successive processing. Cognitive functioning processes work together interactively within an individual's knowledge base, subsequently altering this base of knowledge (Naglieri & Das, 1997). The cognitive measures according to the PASS theory are outlined in Table 1.

Table 1.
Description of Cognitive Assessment Scales and Subtests (Nagliari & Das 1997)

Planning Scale

Planning consists of programming, regulation, and verification of behaviors and functions under the supervision of the attention system. Planning processes provide control, and these processes utilized in conjunction with prior knowledge, intentionality, and self-regulation are essential for achieving a desired goal.

Subtests were designed to require a child to create a plan of action, apply the plan, verify that an action conforms to the original goal, and modify the plan as needed.

Matching Numbers is a four-page paper and pencil timed task, composed of eight rows of numbers with six numbers per row. The individual is asked to underline the two numbers in each row that are the same.

Purpose To measure a child's efficiency; also provides an overview of strategies used to complete the task.

Planned Codes is a timed task that contains two items, each with its own set of codes and particular arrangements of rows and columns. A legend at the top of each page shows a correspondence of letters to specific codes (for example, A,B,C,D to OX, XX, OO, XO, respectively. Individuals are asked to fill in the corresponding codes in the empty boxes beneath each letter.

Purpose The same as with the previous task.

Planned Connections contains eight items. The first six items require children to connect numbers in sequential numbers. The last two items require individuals to connect both numbers and letters in sequential order in an alternating manner (for example, 1-A-2-B-3-C).

Purpose The same as with the previous task, although this subtest is the best measure of efficiency.

Attention Scale

Attention is considered a basic component of intelligent behavior involving allocation of resources and effort. Attentional processes provide focus, and selective sustained cognitive activity.

Subtests require the focus of cognitive activity, detection of a particular stimulus, and inhibition of responses to irrelevant competing stimuli.

Table 1. *(continued)*

Expressive Attention contains different versions for individuals age five to seven and those eight years of age and older. Older individuals are asked to read 40 words from a stimulus page. In the final item the words BLUE, YELLOW, GREEN, and RED are printed in a different color ink that the colors the words name. The individual is instructed to name the color ink the word is printed in, rather than to read the word.

Purpose To measure selectivity and ability to shift attention.

Number Detection contains a page of numbers and individuals are asked to underline specific numbers that appear at the top of the page. In each item a condition is set whereby children are required to find a particular stimulus on a page containing many distractors.

Purpose To measure selectivity, ability to shift attention, and resistance to distraction.

Receptive Attention is a paper and pencil subtest that contains different versions for individuals age five to seven and those eight years of age and older. Older individuals are presented with two conditions, one that utilizes a physical comparison and one that uses a lexical comparison. The letters are first matched according to physical similarities (t and t) and later on the basis of lexical similarity (t and T). Thus the individual is required to underline, row by row, all the pairs of letters (t,T; b,B; r,R; e,E; n,N; a,A) that are physically the same (for example T T, or t t, but not N t).

Purpose To measure selectivity, ability to shift attention, and resistance to distraction.

Simultaneous Processing Scale

Simultaneous processing is a means of operating on incoming information. Simultaneous processing arranges incoming information into a holistic pattern, to be surveyed in its entirety, as a gestalt, and units can interrelate in different ways.

Subtests require the synthesis of separate elements into an interrelated group using both verbal and nonverbal content.

Table 1. *(continued)*

Nonverbal Matrices is a 33-item multiple choice task. Each item utilize shapes and geometric elements that are interrelated through spatial or logical organization. Items are composed of a variety of formats including completion of geometric patterns, reasoning by analogy, and spatial visualization. Children are required to decode the relationship among parts of an item and respond by choosing the best of six options.

Purpose To assess the individual's ability to appreciate the relationship among all components of the item.

Verbal-Spatial Relations is composed of 27 items that require the comprehension of logical and grammatical descriptions of spatial relationships. The subject is shown six illustrations and asked to point to the picture that shows, for example, "the ball in the basket on the table" or "the woman pointing to the ruler with a pencil."

Purpose To assess the ability to evaluate logical grammatical relationships.

Figure Memory is a 27-item paper-and-pencil subtest. The individual is shown a page that contains a two or three dimensional geometric figure for five seconds. The individual is presented with a response page that contains the original design that is embedded within the larger figure. In the copying version, a recognizable geometric design is reproduced by the individual.

Purpose To assess the individual's ability to accurately identify all portions of a figure simultaneously.

Successive Processing Scale

Successive processing is a means of operating on incoming information. Successive processing consists of coding information in a discrete, serial order where the detection of one portion of the information depends on its temporal position relative to other material. The major difference between the two processes is that while simultaneous processing units can interrelate in different ways successive processing units can only be related in a linear fashion.

Subtests require the individual to deal with information that is presented in a specific order and for which the order drives the meaning.

Word Series consists of nine single syllable words, e.g., Book, Car, Cow, Dog, Girl, Key, Man, Show, Wall. The subtest has 27 items that the examiner reads aloud to each individual. Each series ranges in length from two to nine words,

Table 1. *(continued)*

read at a rate of one word per second. The individual is required to repeat the words in the same order as presented.

Purpose To assess an individual's ability to reproduce the entire word series in the order presented.

Sentence Repetition consists of 20 sentences that are read to an individual. Each sentence is composed of color words (for example, "The blue is yellowing"). The individual is required to repeat the sentence exactly as it was presented. Color words are utilized so that the sentences contain little meaning to help reduce the influence of simultaneous processing.

Purpose A measure of syntactic structure that is based on the serial relationship among the words.

Sentence Question is a 21-item subtest that uses the same type of sentence as those in Sentence Repetition. An individual is read a sentence and then asked a question about the sentence. For example, the individual is read a sentence, "The blue is yellowing," and the individual is asked the following question: "Who is yellowing?" (The correct answer is "The blue.")

Purpose A measure of syntax comprehension that is based on the serial relationship among words.

The CAS has been shown to be a reliable and valid instrument (Naglieri & Das, 1997) with well established norms[1]. It is designed for use with school aged children. In the CAS the emphasis is on process rather than on content as it is in traditional IQ tests. The CAS has been designed to reflect neuropsychological processes[2], many of which have been identified as problematic in the YO population (Lynam, 1996; Pennington & Kelly, 1995). The CAS manual provides tables for comparison[3] of: (a) PASS scale standard scores for meaningful discrepancies, (b) subtest scores within each scale for meaningful discrepancies, (c) CAS scores from the first evaluation to scores obtained in the second evaluation (d) PASS scale standard scores with the age based achievement standard scores of the Woodcock Reading Mastery Tests (Woodcock, 1987). For example, from the CAS Full Scale Score one can obtain predicted scores as well as actual scores, making it possible to identify significant discrepancies between ability and achievement. This is accomplished by comparing an individual's subscale mean to his/her personal mean achieved on all four scales, thereby identifying scores that are significantly greater or significantly lower than that child's mean score (Naglieri & Das,

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[1] This makes the CAS well suited for research wherein control groups are not possible.

[2] The CAS has been shown to be sensitive to Fetal Alcohol Syndrome, for instance.

[3] Details describing the use of levels of confidence and levels of significance can be found on page 155-158 of the CAS manual.

1997). This feature can be advantageous in revealing one or more areas that could conceivably be implicated as a particular cognitive deficit (Das, Naglieri, & Kirby, 1994).

There are many compelling reasons for making use of the PASS theory of cognitive functioning in an attempt to further understand cognitive processing in YO recidivists. It is known that this population experience cognitive difficulties, and the PASS model is sensitive to the detection of cognitive functioning. In fact, within the model a great deal of importance is placed on diagnosis and remediation of cognitive challenges (Das & Abbott, 1995), which is especially relevant when dealing with a population known to suffer from various cognitive dysfunctions. The model allows for the fact that individuals can demonstrate a gap between knowledge and performance (what they know and what they can do). As well, it acknowledges that output/performance may have to be properly developed before a person can express what she/he knows (Das, 1999a). Premised on this idea, it would seem likely that once remediation with YOs is successful they would be more able to express what they know in a positive, prosocial manner. Acquiring the necessary skills for reading could conceivably have a tremendous impact on a YOs behavior. The information processing strategies acquired while learning to read, and the corresponding ability to process language[4] more efficiently should enable a YO to relate to others more easily and effectively, thereby allowing for subsequent social and emotional growth as well as increased academic success[5]. Perhaps the process of academic remediation makes understanding and utilizing social mores more possible for many of these youngsters.

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[4] "It has been suggested that verbal ability is the necessary mediator of self control mechanisms which develop and internalize over time through social interactions" (Teichner, Golden, Crum, Azrin, Donohue, & Van Hasselt, 2000).

The CAS could be particularly appropriate in working with YO recidivists, since it is not biased against, but rather sensitive to variations in language, culture, and socioeconomic status (Naglieri & Das, 1987). Research based on the PASS model, utilizing the CAS with delinquent populations, indicates that the CAS can effectively identify delinquent adolescents on the basis of overall cognitive functioning (Enns, 1998; Hurt & Naglieri, 1992). Based on this work, Enns (1998) reported that the sample mean for the delinquent group differed significantly on the CAS scales that measured planning and attention. However, as a result of his study, Enns (1998) concluded that a "closer examination of the tasks used to measure simultaneous and successive processes show that these areas should also be addressed in remediation, even though these appear to be areas of relative strength for the individual and the scale scores actually approached the mean of the standardization sample" (p. 12). This recommendation is based on the findings that elevated scores on only one of the tasks, given to test either simultaneous or successive processing, can actually inflate the overall score in these two areas to within the normal functioning range. One young person in Enns' case study had an identified cognitive weaknesses in the areas of attention and planning (both significantly below the mean). His highest score was in successive processing, followed by simultaneous processing (both were in the average range). Yet, in successive processing this young person's strength appeared to depend upon the score he achieved in only one of the three successive tasks. On one task he was well above the mean, while on one of the other tasks his score fell more than one standard deviation below the mean, and on the other he was two standard deviations below the mean. Although results on simultaneous processing tasks were not as discrepant, he did score more than one standard deviation below the mean on at least one task. Consequently, although simultaneous and successive processing might fall within the average range, a young person could be experiencing considerable difficulties on some of the tasks involved. It also seems likely that his performance on planning and attention would increase considerably if he were to be provided with remedial help on those simultaneous and successive processing tasks which were considerably below the mean (or simultaneous or successive processing in general). The finding that YOs appear to experience significant difficulty especially with successive processing is consistent with the scores of over 200 YO males and females, combined, that demonstrate significant difficulties, especially in Successive Processing tasks as measured by the CAS[6].

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[5] For someone for whom reading has always been problematic finally learning how to read would likely be a tremendous boost to the ego and self-confidence.

Remediation and Recidivism

Simpson, Swanson, and Kunkel (1992) reported that an intensive multisensory reading program reduced recidivism rates in a group of learning-disabled delinquents. Thirty-two treatment and thirty-one control participants (13-18years of age) were randomly selected from two detention facilities (combined *n*=130) in the same geographical area. To be included, participants had to meet the following criteria: "(1) Full English proficiency (as measured with the IDEA Oral Language Proficiency Test II), (2) hearing and vision within normal limits, (3) verbal and performance IQ above 80 (as measured on the WISC-R), (4) discrepancy between reading and verbal performance IQ of 15 points or more, based on norms, (5) history of adequate elementary school attendance" (p. 56-57). Reading instruction for the control group was provided during the regular daily 45-minute English class that contained approximately 12 students. Students in the treatment group were provided 90 minutes of reading instruction daily in groups of 1 to 6 students, where instructions provided by a certified teacher were based on the assessed needs of the students, and modeled after the Orton/Gillingham method of remedial reading (a multisensory alphabetic phonetic approach which focuses on integrating sensory feedback from the eyes, ears, and mouth to facilitate the association between the sound patterns of oral language and the alphabetical pattern of the written language; students hear, see, articulate and point to words simultaneously). Pre and posttest reading results were obtained using alternate forms of the Woodcock Test of Reading Mastery. Recidivism rates within one year of release from the detention facility were compiled for all subjects, using the Central Crime Index. One-way analysis of variance was performed to ascertain differences in reading growth as related to IQ, hours of instruction, rates of recidivism and frequency of arrest. Results indicated that a multisensory approach to remedial reading produced significantly greater growth in reading for the treatment group (.93 year's growth vs .07 year's growth for the control group). Recidivism rates one year following release were significantly lower for the treatment group (41%) than for the control group (63%), and there were significantly fewer arrests for the treatment group (.46) than for the comparison group (.99).

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[6] Results are from testing done by Enns and Associates for a paper currently being prepared for publication.

Cunliffe (1992) reviewed studies of social skills in young offenders. "Only those studies concerning male offenders who fall under the conduct disorder classification of DSM-III-R were included"[7] (p. 893). Appropriate social skills were defined as "a series of synchronized skills that must be performed appropriately to produce positive consequences" (p. 892). Results of this review indicated the following

(1) YOs experienced difficulties differentiating between positive and negative effects when dealing with interpersonal situations and events,

(2) An increase in social problem solving ability corresponded with decreased aggressive behavior and antisocial beliefs,

(3) YOs were able to understand the application of problem solving skills, but had poor generalization ability,

(4) Social skills training has been shown to reduce recidivism rates with incarcerated or inpatient YOs, but little is known about the effects of such training with YOs in outpatient settings.

The author concluded that it is not clear whether social skills training or some other variable reduced recidivism (e.g., perhaps YOs with social skills training are just better able to avoid arrest).

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[7] Youths charged with murder, sexual assault, narcotics or food and drug act offences were excluded from the review studies.

Coffey and Gemignani (1994) did an extensive review (1980-1992) of the general (descriptive or anecdotal) literature and research on effective practices in juvenile corrective education (though little attention was directed towards the special needs of female offenders or multi-cultural issues). Although the review did reveal occasional positive program results, it did not result in conclusive endorsement of one model. The most effective cognitive models were those developed to influence offender thinking and knowledge, and included social skills, interpersonal problem solving, creative and critical thinking, value enhancement, emotional management and victim awareness. Reductions in recidivism rates for students in these programs were usually confirmed through follow-up research.

One of the programs reviewed was the New Pride Program for serious recidivists in Denver Colorado, which has claimed a 90% success rate for their graduates in successfully staying out of correctional facilities and a 70% rate of reintegration into school and work (James & Granville, 1984). The six components of the New Pride program include assessment, remedial academic training, intensive supervision, counseling, occasional training and job placement. Evaluations of other supported work programs, such as Job Corps, indicated effectiveness primarily in reducing crime in adult offender populations, but only negligibly so in YO populations (Piliavin & Masters, 1991). Transition Programs, on the other hand, were found to be less than satisfactory (Cabinet for Human Resources, 1988; Leone, Walter, & Edgar, 1990; Whittier & Sutton, 1990). As well, community based program interventions located within the formal justice system did not produce the same lower recidivism rates as interventions located outside the system (Davidson, Rednar, Blakely, Mitchell, & Emshoff, 1987). Overall, the most successful day treatment programs appear to be those that serve adjudicated individuals with special needs (Webb & Maddox, 1986), and decreased recidivism appears to be due to a combination of educational counseling, family therapy, vocational training, social skills training; and alternative educational programs with a heavy emphasis on vocational training and work experience, as well as mandatory family involvement.

Maguin and Loeber (1996) selected 106 naturalistic studies and 12 intervention studies for meta-analysis to determine the relationship between academic performance, delinquency and prevention/intervention studies. To be included, studies had to provide adequate data to calculate effect size (the degree of relatedness of one variable to another). As well, intervention studies included a group of control or comparison subjects who did not receive the intervention, to rule out other causes of any change. Results of the meta-analysis revealed

> that children with lower academic performance offended more frequently, committed more serious and violent offences, and persisted in their offending. This association was stronger for males than females and for whites than African Americans. Academic performance predicted delinquency independent of socioeconomic status (p. 145).

The results suggest a correlation between academic performance and prevalence and onset of delinquency (the poorer the academic performance, the more pronounced the delinquency). SES was not found to be a significant factor in the academic performance-delinquency relationship. In addition, for males especially, attention problems were seen as a likely cause of academic performance and delinquency. Improvement in academic performance was correlated with reduced recidivism rates, and successful intervention programs varied extensively with the different ages of the participants. Hollin (1999) reviewed meta-analytic studies to provide a synopsis of the effective elements of treatment programs for offenders and concluded that "treatment appears to be the most effective with high-risk offenders" [8] p. 367).

It would appear that treatment programs should be designed with recidivists in mind. These programs should (1) use a structured, focused approach, (2) include a cognitive component to address process and strategies as well as attitudes and beliefs, and (3) include intensive offender participation. Reviews of remediation and recidivism indicate that effective treatment programs can be designed to specifically address the needs of recidivists, and that one of the major components must focus on academics, because of the correlation between academic remediation and reduced recidivism rates (Archwamety & Katsiyannis, 2000; Katsiyannis & Archwamety, 1999; Maguin & Loeber, 1996).

However, it is important to remember that academic achievement is but one element of several that factor into recidivism. Other equally influential factors include age of initial incarceration, age of first offence, and IQ (Archwamety & Katsiyannis, 2000; Katsiyannis & Archwamety, 1999; Tollett, 1999). As well, the first few months are crucial. Being able to maintain a job or remain in school for the first 6 months after release significantly increases a YO's chances of success (Bullis, Yavanoff, Mueller, & Navel, 2002; Todis, Bullis, Waintrup, Schultz, & D'ambrosio, 2001).

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[8] High risk offenders are those with a long history of offending and recidivism.

PREP Remediation and YOs

PREP (PASS Reading Enhancement Program) is a remedial program based on the PASS theory, and was initially designed for primary school-aged children. "PREP was constructed to induce successive and simultaneous processing while involving the training of planning and promoting selective attention" (Das, Naglieri, & Kirby, 1994, p. 172). PREP is designed to improve information processing strategies underlying reading, without focusing specifically on word-reading skills. Reading is an essential component of general academic success (Salvia & Ysseldyke, 1995). The results of an eight year longitudinal study reveal that reading problems that are not successfully remediated in primary school will negatively impact an individual's entire educational career (Boland, 1993). A high percentage of YO recidivists read only at the 5th or 6th grade level (Cramer & Ellis, 1996).

A noteworthy difference between PREP and many other remedial programs is the teaching of strategies rather than content. With PREP, children are encouraged to become aware of their cognitive processing (what they were thinking and why they chose to do what they did). In this manner, learning occurs spontaneously through inductive reasoning, rather than through deductive reasoning (Das, 1999b; Vygotsky, 1962). Inductive reasoning is more "self-analytical," and requires a more personal understanding of how knowledge is acquired. Once children become aware of their cognitive processing and, thus, their strategies, learning becomes a factor more within their control. Not surprisingly, PREP has been shown to be an effective remediation program for students with learning disabilities, as well as other populations that experience difficulties learning primarily through content based instructions (Das, Naglieri, & Kirby, 1994).

PREP is considered a viable option for remedial work with YO recidivists, given the high incidence of cognitive processing difficulties, learning problems and reading difficulties within the group, and the fact that it has been shown to be very effective in remediating reading difficulties with diverse populations (Churches, Skuy, & Das, 2002; Jansen, 2001; Papadopoulas, Das, Parrila, & Kirby, 2003; Parrila, Kendrick, Papadopoulas, & Kirby, 1999). Although it was originally designed for primary school-aged children, it would seem appropriate for the YO recidivists in terms of level of required remediation, with slight adaptation of content to make it more relevant to chronological age. Lawson and Sanet (1992) determined that YOs were reading one to seven grades below their grade level. A study done by Boden and Kirby (1995) revealed that poor readers had difficulty applying successive processing to reading and that PREP was an effective tool for teaching these poor readers. One of the most appealing aspects of PREP is that it teaches strategies rather than content. Given the likelihood that these youngsters have experienced repeated failures when teaching focus was on content, it is conceivable that they will be more receptive to a new method, especially one that promises to "teach them how to learn," instead of what to learn. As well, given Enns' (1998) recommendation that it would be expedient to address successive and simultaneous processing in remediation, PREP becomes an appropriate choice for remediation with this population[9].

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[9] Recent studies support the critical role of successive processing in reading

The one specifically relevant advantage that PREP offers in terms of remediation with YOs is that it teaches children how to learn instead of what to learn. What has been most commonly provided to children with various learning difficulties, to date, has been more of the same content presented in a different manner, and sometimes context (Das, Naglieri, & Kirby, 1994). PREP instead actually offers the participants the opportunity to discover new strategies for learning. Through discussion of what they are doing during various PREP tasks, children are encouraged to become aware of their use of strategies. They are also provided with the opportunity to internalize strategies in their own way, thus increasing the probability that these strategies and the new skills that accompany them will readily transfer to new situations (Das, 1999b).

Overall, the PREP component of the PASS model meets many of the requirements previously outlined as essential for successful remediation with YO recidivists. First, the PREP provides 10 structured tasks aimed at developing and internalizing strategies that deal with successive processing (six tasks) and simultaneous processing (four tasks) (Das & Mishra,1994). As such it addresses two issues concurrently. It encourages and reinforces knowledge and use of strategies –as understood and explained by the participants- while helping to remediate successive/simultaneous processing deficits. Another relevant aspect of the PREP for YOs is that it encourages participants to develop their thinking and language skills as well as their reading skills, by requiring them to identify and articulate the strategies they

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achievement, and the need for remediation to address successive processing (Kirby, Booth, & Das, 1996).

use. This is a tremendous advantage for these young people because oral language skills are essential to comprehension, and both are areas of difficulty for them. Lastly, an important feature of PREP remediation for YOs is that it involves relatively little school content and only after the skill has been mastered on a global task (that involves no school content). This is an important consideration with YOs, because of their previously difficult and often negative experiences at school with regular academic materials.

Based on the results of the literature review, the researcher designed a qualitative study encompassing a small number of young offenders. The instrumental case study approach (Stake, 1995) provided an appropriate vehicle for a thick description of the remediation process, and its potential impact on the cognitive processes, achievement, and short term recidivism of YOs.

Research Questions

The following research questions were of interest:

(1) How is the cognitive functioning of these young offenders reflected through their results on the CAS, and selected achievement and language tests?

(2) Does remediation with PREP appear to improve any cognitive difficulties that were identified?

(3) What are the short term recidivism rates following release?

(4) What is each participant's experience with the PREP remedial program?

CHAPTER 3

Research Design and Method

The Qualitative Case Study Method

The qualitative case method was chosen as a primary approach for this study since it seems to provide an excellent "fit" for the exploratory nature of the research. "A case study approach is often the best methodology for addressing problems in which understanding is sought in order to improve practice" (Merriam, 1988, p. xiii). The case study method provided detailed information to help improve the practice of remediation of academic difficulties in YO recidivists. To date most of the focus has been on identifying deficits, rather than remediation. According to Merriam (1988), case studies are especially appropriate when the researcher is "interested in insight, discovery and interpretation, ...[as] this approach aims to discover the interaction of significant factors characteristic of the phenomenon" (p. 10). The knowledge available from a case study is substantive, situational and personally developed by reader interpretation (Stake, 1995). Case studies lend themselves well to research that focuses on eliminating "erroneous conclusions so that one is left with the best possible, most compelling, interpretation" (Merriam, 1988, p. 30).

The specific qualitative case study research method of choice for this inquiry is an instrumental collective case study, which allows the focus on determining the impact of PREP remediation on the behavior of YO recidivists. According to Stake (1995), an inquiry can be considered an instrumental case study when the case study is used "to understand something else" (p. 3), other than the individual (in this case the efficacy and desirability of using CAS and PREP with YO recidivists). A collective case study is indicated when several individuals studied at length would more readily reveal the complexities of the inquiry at hand. When each particular case is studied in detail, the consideration is on the distinctiveness of each case. "There is emphasis on uniqueness, and that implies knowledge of others that the case is different from, but the first emphasis is on understanding the case itself" (Stake, 1995, p. 8). Hence each case becomes instrumental in learning about the phenomenon of interest.

Studying a few particular individual cases in detail provides the possibility for counter-examples, and thus offers the researcher a unique opportunity for general understanding and insights. For example, a certain generalization may be drawn about reading difficulties encountered by YO recidivists who experience problems with successive processing. However, after further examination it might become obvious that most of these young people have greater difficulties with a certain task within the successive processing scale. As a result the original generalization is refined and enhanced. "A positive example is likely neither to establish a generalization nor to modify one, but may increase the confidence that readers have in their (or the researcher's) generalization. [However] we do not choose case study designs to optimize production of generalizations ...[as] the real business of case study is particularization, not generalization" (Stake, 1995, p. 8).

The purpose of a case study is to provide accurately, fully, and completely a description of the case(s). Consequently, the outcome of the case study method is a "thick" description of the phenomenon studied. "Thick description is a term from anthropology and means the complete, literal description of the incidence or entity being investigated" (Merriam, 1998, pp. 29-30). It also means 'interpreting the meaning of ...demographic and descriptive data in terms of cultural norms and mores, community values, deep-seated attitudes and notions, and the like' (Merriam, 1988, p. 11).

Depiction of the phenomenon is enhanced through the use of "prose and literary techniques to describe, elicit images, and analyze situations ... [by using] documentation of events, quotes, samples and artifacts" (Merriam, 1998, p.30). (Each case study is based on such documentation of events, quotes and samples). As a result, "Previously unknown relationships and variables can be expected to emerge from case studies leading to a rethinking of the phenomenon being studied. For instance, we know that YO recidivists experience significant academic problems, particularly with reading. The next logical step would be to identify specifically what is causing these difficulties as well as the best methods for remediation. Insights into how things get to be the way they are can be expected to result from case studies" (Stake, 1981, p. 47), as researchers "make assertions based on a relatively small database, invoking the privilege and responsibility of interpretation" (Stake, 1995, p. 12).

The decision to use the case study method was based on several factors. To begin with, although much is known about how many YOs perform on IQ tests (typically considerably higher on Performance than on Verbal, even when race, SES, and family adversity are considered), little is known about their cognitive processing per se, other than the fact that this appears to be a major source of concern for YOs, and that a variety of remedial methods have been successful to varying degrees. To date, no "standard" (or generally effective) method of assessment or remediation has been identified as useful when dealing with YOs. The literature on the topic of YO recidivists is rift with assumptions and suppositions, as opposed to being theoretically driven (as it is, using the PASS model). Consequently, this is an area that merits further investigation. Although I was interested in how they perform on the CAS, of equal importance was why the participants performed the way they did, and whether or not, based on an in depth analysis of the assessment and remedial findings, PREP appeared appropriate to remediate the identified difficulties. The case study method was a reasonable choice given the amount of detail available to address these questions.

Though quantitative pre-posttesting was done to gain information as to the possible impact of PREP on cognitive measures and some areas of language and achievement, these quantitative results are contextualized within the overall qualitative analyses of these young men's comments about their lives, their experience of the remedial program, and their perception of the outcomes.

This method provided an opportunity to obtain a more detailed study of the strategies that some YOs presently use to achieve academically, and how they learn new strategies, from the combined perspectives of the participant as well as the observer. Participant observations added a relatively unique perspective to the information obtained, and improved the ability to test assumptions about perception and achievement.

Participants

According to Stake (1995), the most important criterion in selecting a case is to choose one that maximizes what the researcher will be able to learn. Each case should be chosen on its own merits, and not because of its typicality, and also primarily for what can be understood about it specifically, as opposed to what it has to offer in understanding other cases. " Balance and variety thus are important; opportunity to learn is of primary importance" (p. 6).

The criteria identified for the selection of participants were having a secure sentence of sufficient length to allow completion of testing and remediation (at least 4 months[10]), no FASD diagnosis, or psychotropic medications, or absence of unremediated hearing or sight problems (for example, while wearing glasses would not be an impediment, needing glasses, and not having any, would be). As well, participants needed to be articulate enough to describe their feelings, as well as what was happening for them during various activities.

Initially 12 young men volunteered by signing up for the study. One young man decided not to participate once he heard about the study first hand, a few were transferred before the study started, and some were not suitable for a variety of previously stated reasons. One young man was excluded from the study because he scored in the Superior range on the CAS. Another young man quit after completing some of the first pre test. He insisted that this "work" was too difficult for him, despite assurances that all that was required of him was to do his best.

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[10] As a rule YOs who receive a custodial sentence already have quite an extensive history of offending, and all attempts at community sentences have been unsuccessful.

Setting

The setting for this study was the Edmonton Young Offender Center (EYOC). It is the equivalent of an adult prison. EYOC is a large (256 bed) secure, lock down facility designed to contain YOs who have committed the most serious of crimes such as murder or manslaughter, or who have continued to offend despite receiving several community sentences. Only the front door is accessible to the public and staff reporting for work. These doors open into a relatively large common area that contains lockers on both sides, as visitors are only allowed to proceed beyond this point once all items such as keys, wallets, cell phones and/or other valuables are securely locked up. This area also contains a small seating section, a reception desk and to the right a door that leads to the administration area. To go beyond this point, one must pass through metal detectors and wait in front of two sets of electronically locked doors. Access can only be granted from the 24-hour desk, immediately inside these doors. From the master panel at this desk, every locked door can be opened or secured, and staff at this desk, through this panel, can override any other controls – regardless of their location in the building. To proceed beyond this point, all visitors must sign in at the 24-hour desk and obtain a visitor's tag. All doors are locked beyond this point including those to the visiting lounge, which is just a few feet up and to the left of the 24-hour desk. Within the lounge perimeter are several locked offices that surround a common area containing tables and chairs as well as a few vending machines. It was within these offices adjacent to the common area that this study took place.

The doors on either side of the lounge lead to eight units, one of which is a disciplinary unit for young men, and another that is the young ladies' unit. Male and female YOs are always housed on separate units and have very limited contact that occurs only during school hours and between those attending school. There is also a solitary confinement area, away from all the units, where YOs, (both males and females) who are suicidal or whose behavior is totally out of control are housed individually, and all interactions are exclusively with staff. All units are laid out in a similar manner. Next to the door is the desk with a control unit from which all cell doors can be opened individually or in unison. Behind the desk is a board that contains the picture, names, age, and sentence of each YO housed within that unit. Adjacent to the desk is an isolation room, where YO can go, voluntarily or upon staff request, due to behavioral concerns. Opposite the control desk is a small alcove where YOs can gather to watch a small black and white TV. Just beyond this area and around the perimeter are an upper and lower row of cells. On the main floor, adjacent to the cells, is a common area that contains an eating area, a small lounging area, laundry facilities and a staff office. The eight units are dispersed through the building with other areas such as the classrooms, shop, home economics room, library, gym and kitchen.

All testing and remediation was conducted in an office, adjacent to the common area where there were seldom any distractions. As well, all encounters were in a one-on-one situation where there was little immediate distraction. The only constant distraction was over the PA system, which is used to relay messages to staff that are not in a position to currently be contacted, either by phone or radio.

Gaining Entry

Gaining entry entailed submitting a proposal to the University of Alberta's Faculty of Education and Extension Research Ethics Board, as well as the Justice Department Ethics committee, and getting permission from EYOC (refer to Appendix A). I have had dealings with EYOC for many years as a liaison for community outreach. As a result, over the years I have established a reputation for being trustworthy and sensible, and consequently EYOC was receptive to my study being conducted in their facility. Having rapport with EYOC staff worked to my advantage, and helped in obtaining permission from the Department of Justice Ethics Committee to proceed with this research.

Procedure

I obtained informed consent from each participant as well as from their parents, or guardians (if/when necessary) (refer to Appendix B). The need for confidentiality was addressed by using codes in lieu of names, and in the write-up pseudonyms were used. Every effort was made to maintain privacy for the lives of those involved. The YOs in the study were all seen individually. From the beginning, participants were made aware of the fact that "secrets" involving past, present, or future harm or potential harm to the person disclosing or to any other individual would be dealt with immediately, other types of secrets (something that they have done, but have never mentioned to anyone else and don't want others to know) would be respected. As in-depth interviewing can have unanticipated short or long-term consequences, I was mindful of informing the participant's caregiver of any perceived stress or difficulties associated with any given interview. I informed all involved when their part in the study was over, and attempted to review the narrative obtained with those participants who wished to do so. Ultimately they had little interest in these issues, but were pleased to hear that this study was helpful to me and potentially helpful for other YOs, as well as to themselves. I was cognizant of the need to reconsider issues or other theoretical structures to guide my data gathering, to learn what participants knew, and what they wanted to come to understand. I sketched plans for a final report and dissemination of findings, and identified the possible "multiple realities," while allocating attention to different viewpoints, and conceptualizations (getting participant feedback), during data gathering and validation. This was accomplished through the use of observations and interviews, and by debriefing participants, keeping records of inquiry arrangements and activities, selecting vignettes, special testimony, illustrations, classifying raw data, reviewing raw data under various possible interpretations, searching for patterns of data, drawing tentative conclusions, organizing data according to issues, gathering new data, and deliberately seeking disconfirmation of findings, thus providing the audience with an opportunity for understanding (Merriam, 1998; Patton, 2002; Stake, 1995).

Data Collection

According to Stake (1995), the "absolute essentials to data gathering are the following: definition of cases to be studied, list of research questions, identification of helpers, data source, allocation of time, expenses, intended reporting" (p. 51). These "essentials" were addressed before the initial contact was made. Stake also suggests that the researcher develop a data storage system, specifically maintaining "a personal diary or log in which everything is kept: calendar, telephone numbers, observation notes, expenses" ...[as well as] " file folders identifying issues, sites, persons" (p. 55). These suggestions were followed for data gathering, thereby increasing the confidence of both researcher and eventual readers.

According to Merriam (1998), "case study does not claim any particular method for data collection or data analysis. Any and all methods of gathering data from testing to interviewing, can be used in a case study" (p.28). Data were collected from both researcher and YO participants (as previously indicated), using a variety of approaches, including interviews to obtain experiential description, observations from varied sources, anecdotal records, audiotapes of sessions, and pre and posttest results from a variety of instruments. Each session began with a review of the previous session, followed by an explanation of the task of the day. Each session was tape recorded. After each young man left to return to his unit, and while the researcher was waiting for the next young man to arrive, anecdotal records forms (see Appendix C) were completed and notes and observations were also written on this form (for each session, for each young man). The researcher also tracked recidivism for eight months[11] from release, using the justice database.

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[11] Research indicates that average survival time in the community, for YO recidivists, varies from 4 months to 12 months (Tollett, 1999); consequently eight months would seem an appropriate amount of time to track recidivism (given the time constraints of a research study).

Test results. This collective case study examined pre and posttest results of the CAS, Test of Adolescent/Adult Language-3 (Hammill, Brown, Larsen, & Wiederholt 1994), Woodcock Reading Mastery (Woodcock, 1987), and Keymath Diagnostic Arithmetic Test (Connolly, 1988) to gain a better understanding of YO recidivists as related to academic achievement. Comparing pre and posttest differences provided the opportunity to ascertain similarities and differences, as well as strengths and weaknesses within individuals to determine any changes in the results obtained on these measures after completing the PREP. The CAS provided information on each participant's cognitive functioning - how they process information re: planning (programming information, regulating and verifying behaviors and functions, under the supervision of the attention system); attention (allocation of resources and efforts); and simultaneous and successive planning (coding of information). The Test of Adolescent/Adult Language-3 (TOAL-3), recently normed in Canada, was utilized to assess receptive and expressive spoken and written vocabulary and grammar: listening/vocabulary, listening/grammar, speaking/vocabulary, speaking/grammar, reading/vocabulary, reading/grammar, writing/vocabulary, written/grammar. (When reading is a problem, language skills are often also an area of concern). Strengths and weaknesses on the TOAL-3 would be predicted to bear some similarities to strengths and weaknesses on simultaneous and successive processing, as well as to some of the results of the Woodcock. The Woodcock was utilized to provide insights into the development of basic reading skills, reading-comprehension skills, visual/auditory learning, word identification, word attack, word comprehension, and passage comprehension. The

KeyMath assessed working knowledge of basic concepts, operations and application (Although KeyMath scores are unlikely to significantly change as a result of the PREP, they should help to provide a well rounded profile of YO functioning).

Experiential descriptions from YOs were obtained during and after testing and remediation. Using Patton's (2002, p. 348-360) guide, questions were formulated to reflect or include: (1) questions related to experiential/behavior, such as how they managed in school when they were unable to do what was asked of them (questions about what a YO had done), (2) opinion/value questions for example about the strategies they use and how they came to use these (questions aimed at understanding the cognition and interpretive process of the YO), (3) feeling questions such as how they felt about the CAS and especially the PREP[12] (questions aimed at understanding the emotional responses of YOs to their experiences/thoughts on a daily basis), (4) knowledge questions about school attendance and their marks in school, as well as their parents' views on these topics, for instance (questions asked to find out what factual information YOs have), (5) sensory questions about CAS and PREP (questions about what YOs have seen , heard, touched), and (6) background demographic questions (questions concerning age, education, occupation, etc.).

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[12] Time frame questions involved past (prior educational experiences and coping/learning strategies), present (their experience of the CAS and PREP), and future (how they think they will do re: recidivism) dimensions.

Interviews. Factors to address when asking questions according to Patton (2002) are the time frame of the questions (past, present, future)[13], the sequencing of questions, the wording of the questions, as well as the type of interview in which the questions will be embedded. Types of interview include *informal conversational interview* (questions are asked in the natural course of things), *interview guide approach* (specific topics and issues covered; sequencing and wording of question is decided during the course of the interview), *standardization open-ended interview* (all interviewees are asked the same basic questions in the same order, exact wording and sequence of questions are determined in advance), and *closed, fixed response interview* (respondents choose from among fixed responses determined in advance). Strengths and weaknesses are inherent in each type of interview style. During the interview process, it is not uncommon for the researcher to employ several of the strategies together (Patton, 2002), and this is what occurred in this study. For instance, standard open ended interview questions were usually followed by informal conversational questions as a means of getting participants to expand on the answers, just provided.

Participant observations. Factors noted with participant observations included the following checklist of elements: (1) the setting (physical environment and contexts, e.g., where in the building do testing and remediation occur; the noise factor and movement in the area), (2) the participants (how many, their roles, reason for being in the setting), (3) activities and interactions (from participant and/or researcher's perspective),

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[13] For instance, what they liked or disliked about the session; what they thought was useful for school and also for helping them think more clearly about everyday things.

(4) frequency and duration (when, why, how, typicality of activities and interactions), and (5) subtle factors (informal and unplanned activities, nonverbal communication, what has not happened/especially if it ought to have happened) (Merriam 1988, p. 90).

Information was gathered in a very systematic manner, as previously described. Notes were made during and after each testing or remedial session on a form based on the PREP Anecdotal Form, to which examinee characteristics and environmental conditions were added as outlined in the TOAL Test Record Form (refer to Appendix C for form used). This information was combined with ongoing observations and questions asked in interviews, as well as transcriptions of the audiotapes made during each remedial session (refer to Appendix D for sample interview questions).

Once the assessments and the main part of the interviewing were completed, remediation with PREP was undertaken. PREP is designed with ten structured tasks (six successive and four simultaneous), including two types of training for each task. These tasks were designed to improve internalization of strategies for simultaneous and successive processing. With the global tasks, the emphasis is on helping individuals internalize strategies in their own way, in order to maximize generalization and facilitate transfer. Bridging tasks provide training to apply the global processing strategies to specific academic skills of reading. These tasks contain procedures such as rehearsal, categorization, monitoring of performance, predicting, revision of prediction, sounding and sound blending, etc. The tasks used in this study are outlined in Table 2.

Records were kept of PREP interactions, and comments were noted on the previously mentioned form. The feedback of the participants was audio taped. The assumption was that in-depth analysis of the assessment and remedial findings would help to explain why the participants performed the way they did, and whether or not PREP indeed helped to remediate the identified difficulties of this small number of participants, from the perspective of the participants as well as of the researcher. This would assist in understanding the cognitive processing of the participants, and provide an indication of what may or may not be beneficial in terms of assessment and remediation in future research with YO recidivists.

Table 2.
Description of PREP Tasks Utilized (Das, 1999b)

Joining Shapes - Global Individuals use a printed arrangement of shapes: rows of triangles, squares, and hexagons alternating with rows of circles. There is one main rule to follow: They must use straight lines to connect shapes and must always pass through a circle while going from shape to shape. They are instructed to listen to the directions first, and then to do as instructed. For example, the individual is instructed to join a triangle to a square, and then would draw a straight line from the square, through the circle to the triangle.

Joining Shapes - Bridging The task here parallels the global task and look very similar to a word search puzzle. The task is to join individual letters diagonally in sequence to form words.

Focus Successive processing.

Skills Visual scanning, rehearsal of rules, and talking aloud.

Window Sequencing – Global A series of colored circles and squares was shown to individuals, one at the time through a window arrangement. Using the required shapes with no distracters, individuals then reproduce the sequence.

Window Sequencing – Bridging The format in this task is identical to the that of the Global task, except that individuals are now presented with words that they must reproduce with individual letters, and subsequently read.

Table 2. *(continued)*

Focus Successive processing.

Skills Rehearsal, verbalization.

Transportation - Global Individuals were shown a strip of pictures of different vehicles. They were given a limited amount of time to look at the full strip, and at each picture relative to its place on that strip. Then the pictures were covered. Individuals were then asked to reproduce the order with individual pictures. The correct pictures were mixed together with five distracters. Patterns progressed from simple to complex, with the highest level consisting of six items with six pictures in each.

Transportation – Bridging Individuals were shown a word in a straight line array. After they saw each letter in its separate position, the word was covered and individuals were asked to recreate the word using individual letters. The letters provided included the correct ones as well as five distracters.

Transportation II A series of cards containing single words was placed in front of the individual. After the cards were removed, individuals were asked to reproduce this in the correct order. The number of words increased to a total of eight at the highest level.

Focus Successive processing.

Skills Visual scanning, sequential rehearsal, verbalization, prediction, categorization, and discrimination.

Connecting Letters – Global Five pair of letters (one on each side) are aligned horizontally on opposite sides of the page. The five letters on one side are joined by intertwining lines to the letters on the other side. Individuals are required to follow the line with only their eyes, to identify what pairs of letters are joined. Easier items are joined with colored lines, while the lines on more difficult items are all black with distracter lines included.

Connecting Letter – Bridging The lines joining still intertwine and in addition to having letters on either side also have letters along the string that combine to make specific words. Individuals must follow the string with their eyes, identifying the five words on each sheet. The task begins with three letter words and ends with 3 seven-letter words. On this task, all items are connected with colored lines.

Table 2. *(continued)*

Focus Successive processing.

Skills Visual scanning, use of rehearsal as a memory strategy.

Related Memory Set – Global The outlines of the front of three animals were shown. The individuals were then shown the back of one of the animals, with an intervening space, and asked to identify and justify which animal front it matched. As the task got more difficult, the animals became more similar.

Related Memory Set – Bridging Individuals were shown three word beginnings, with one word ending on the other side of the page, with an intervening space in between. They were asked to verbally identify what beginning fit with the ending letters in order to make a word. Words were separated into sets, rhyme unit or syllables.

Focus Successive processing.

Skills Visual scanning, evaluating alternatives, predicting and revising predictions.

Matrices – Global Individuals were first shown numbers, then letters, in a five cell matrix in the shape of a cross. Each matrix was displayed for five seconds as the instructor pointed to all five cells in a variety of sequences. The matrix was then covered for five minutes, after which individuals were asked to repeat the sequence in the order in which it was presented.

Matrices – Bridging The matrices contained four related words and one unrelated word. Each individual went through the same process as in the global task, remembering the words in sequence.

Focus Simultaneous processing.

Skills Categorizing, classifying, and visual scanning.

Tracking – Global For this task, a map is presented to the individual. The map was displayed at about arms length from the individual and contained identical houses with different numbers, identical trees with different letters, and street grids. Individuals were then given a series of three cards, each containing a different house and the minimal grid necessary to allow identification of a specific house. At the most difficult level, a map was displayed with only squares containing letters and lines connecting them to the starting point. The cards at this level had

Table 2. *(continued)*

the same line and box configuration as in the previous level, but with the letters missing.

Tracking – Bridging A map of West Edmonton Mall was displayed with various symbols (for example, bookstores were identified by a book). Individuals were then given a story card containing a list of tasks to be accomplished at the mall. They were then required to complete the imaginary tasks by planning and demonstrating the most efficient route by tracing it with their finger on the map. The subsequent task got more complex.

Focus Simultaneous processing.

Skills Verbalization, organized visual scanning, and use of available clues.

Shape Design – Global Individuals were asked to reproduce a design using colored chips (squares, triangles, rectangles, circles) of different colors. Item cards consisted of designs composed of these shapes. Designs ranged from simple combination of three shapes of different colors to differing in color, shape and size. Individuals were given 10 seconds to study the design, before it was covered.

Focus Simultaneous processing.

Skills Associative strategies, proximity, and spatial relations.

Data Analysis

Data analysis followed general guidelines provided by Stake (1995), Patton (2002), and Merriam (1998). Data analysis was accomplished through an iterative process, a feature of the case study process wherein research method and analysis occur simultaneously as the researcher moves between literature and data and back again.

Analytical insights began to occur during data gathering. All information obtained for each participant was read and reread as a whole to obtain a sense of the data. Notes were also made in the margin as insights occurred. Each individual's information was then gone over again to extract meaning units that were then coded and labeled. Categories and themes emerged from the sorting, grouping and re-grouping of labels. After this process was completed for each individual, a cross-case analysis was performed, following the same method as just previously outlined, to identify common themes and categories in the study as a whole.

During analysis, data were also ordered according to questions, topics and time sequence. The case by case method led to an aggregate list of frequencies and patterns as well as similarities and differences. The subheadings evolved naturally from the questions asked, supplemental information obtained from my notes, and the transcriptions. Analysis was deemed to be completed when no new categories emerged.

Dependability, Triangulation, and Naturalistic Generalization

Merriam (1998) indicates that while reliability of results is a term often used in quantitative research, concepts in qualitative research can be thought of as dependability or consistency of results obtained from the data. She suggests that dependability and consistency can be "enhanced by the investigator explaining the assumptions and theory underlying the study, triangulating data, and by leaving an audit trail; that is, by describing in detail how the study was conducted and how the findings were derived from the data" (Merriam, p. 183).

As suggested by Merriam (1988), I addressed the issue of validity by involving the participants in all phases of the research, checking my interpretations with the individuals interviewed or observed, staying on site over a period of time, asking my co-workers to comment on the findings as they emerged, and bracketing (addressed following this section). I also used triangulation of sources (interviews, observations, and tests) and methods (qualitative and quantitative), searched for discrepant information, and compared my own findings with other findings in the literature, as suggested by Patton (2002). "A study can be designed to cut across inquiry approaches and achieve triangulation by combining qualitative and quantitative methods" (Patton, 2002, p.248), as I did in this study. Utilizing both quantitative and qualitative methods allows inquiry into a research question with an "arsenal of methods that have nonoverlapping weaknesses in addition to complementary strengths"(Patton, 2002, p. 248).

According to Stake (1995), in qualitative case studies, naturalistic generalizations which are context-specific and based on the reader's experience as well as the degree to which the case is representative of some larger population, are not only considered appropriate, but desirable. The standard for this type of generalization is the nature of the phenomenon under investigation, as it pertains to a particular population. The emphasis then becomes the kind of unit under study, rather than the number of units under study (Stake).

Bracketing

I have worked in various capacities with children all my adult life, and with young offenders in a therapeutic environment for more than fifteen years. My educational background involves both special education and criminology. This has enabled me to appreciate, from different perspectives, the challenges that these young people experience.

My sense from working with these young people is that they are most often not "bad kids," but rather kids who have done bad things. I believe in holding them accountable only for what they are able to do, here and now, for example being respectful, on time, and giving an honest effort in understanding what is going on with them, what has worked or not worked for them in the past, and why. Although these young people did make bad choices, it seems to me that, like the rest of us, they often made the best choices that they could under the circumstances. Making a choice does not occur in a vacuum, and does not simply entail deciding what to do. The choices that we make are predicated on previous choices; ours as well as those made for us by other people, and the results are always cumulative. Each choice made impinges on future choices. Because of this I find it very difficult to have anything but empathy for these young people. I don't feel sorry for them, but I do appreciate the difficult lives many have led, and am often amazed that they have survived!

Due to the strong feelings I have about this population and the fact that I was involved in the testing and remedial work with these youngsters, I recognized the need to be vigilant and to constantly make an effort to acknowledge and put aside my biases, suppositions, and assumptions so that my research and interpretations would be as accurate and objective as possible. In order to enhance the objectivity of my work, I also had colleagues with knowledge of CAS, PREP and YOs review the interpretations of my research. I realized the responsibility of the researcher for the work that I proposed, and the importance of representing these participants as accurately as possible. The best way to honor them is to present an authentic representation of who they are, and what is happening with them and for them.

These youngsters are a special needs population often neglected by educators, as their behaviour rather than their academics is most often the salient factor which determines what transpires at school. It is my firm belief that they want to learn and want to achieve in school, and that given a real opportunity and a little sincere encouragement they will be as motivated and as willing to give an honest effort and to please as are most youngsters, generally. I am also convinced that these youngsters possess great potential for learning and for becoming productive members of society, if we provide them with viable and reasonable opportunities to discover, appreciate and utilize their potential. I also utilized input from the students to verify and authenticate my findings.

Ethical Considerations

Aside from obtaining ethical clearance from both the Ethics Committee of the Department of Justice and the University of Alberta, ethical concerns in qualitative research are the responsibility of the researcher. It is the researcher's responsibility to safeguard the anonymity of all participants, to maintain secure access and storage of raw data, and to ensure that all aspects of the research are attended to in an ethical manner. "The best that an individual researcher can do is to be conscious of the ethical issues that pervade the research process, from conceptualization of the problem to disseminating the findings" (Merriam, 1988, p. 184). The two most likely times of ethical dilemma in a qualitative research study are during data collection, and dissemination of findings. I was especially mindful that "All researchers have great privilege and obligation: the privilege to pay attention to what they consider worthy of attention and the obligation to make conclusions drawn from those choices meaningful to colleagues and clients" (Stake, 1995, p. 49).

CHAPTER 4

Case Histories

The four general research questions of the study were addressed within each of the cases based on the verbal input from these young men, in a semi-structured interview, and in the assessment and remediation results and comments. The research questions include the following:

(1) How is the cognitive functioning of these young offenders reflected through their results on the CAS, and selected achievement and language tests?

(2) Does remediation with PREP appear to improve any cognitive difficulties that were identified?

(3) What are the short term recidivism rates following release?

(4) What is each participant's experience with the PREP remedial program?

Yves

Yves is a tall, slender 19 year old Aboriginal youth. He appeared well groomed and pleasant, but rather shy initially with some echolalia[14]. His need to make a good impression soon became apparent during the first session. He proudly stated that he was on Level IV (highest level of responsibility and with the most privileges), and had been for over a year now. He indicated that he wanted to be in this study because he sometimes has problems understanding what he reads, especially if it is school "stuff."

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[14] Echolalia is the repetition of a word or phrase just spoken by another person. For instance when I asked Yves " What kinds of books do you usually read?" He answered "What kinds of books do I usually read?"

Yves was serving the remainder of a 24-month sentence, and had been in EYOC since February 2000. He went unlawfully at large (UAL) in the Fall of 2000; it was his second UAL in a couple months. At the time of the study he was due to be released in late November 2002, and had a year of probation to follow. His convictions for this sentence included two counts of being unlawfully at large, theft over $5,000, two counts of failure to comply, stolen property over $1,000, unlawful consumption, property damage, two counts of assault with a weapon, and two counts of unlawful confinement[15]. He was first arrested, but not charged (due to his age), when he was 11 years old. At age 12 he was arrested, charged and convicted of theft, and has been in EYOC over a dozen times during the remaining years. Thus it is obvious that remedial efforts have not succeeded, to date.

As portrayed in the literature review, delays in development, including cognitive development, have been documented in children as a result of neglect and/or abuse, living in poverty, and lack of parental education and input. Children living in this kind of early environment have been found to have depressed intellectual functioning (often discussed in terms of impaired neurological functioning and/or sensory perceptual challenges), poor language and academic skills, and behavioral problems that are severe enough to culminate in trouble with the law. Initial studies have also shown that remediation of cognitive and academic difficulties can have a positive impact on achievement, behavior, and recidivism.

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[15] When I first started working with Yves, because of his charges (he was quite brutal with the people that he had held as prisoners), EYOC staff offered that a guard be present while Yves was in session with me. I declined, as this seemed unnecessary given that there are "panic buttons" in every room.

It became obvious, based on the description that Yves provided in his interviews and other comments during his sessions, that he presented as a classic example of childhood abuse, neglect, and poverty. The fact that his early developmental context contributed to behaviour problems can be assumed for Yves based on the fact that he already has an extensive history as a young offender

Yves' descriptions of his early development underscore the neglect and abuse that were so evident in his life. When asked what was happening for him during the time of his last crime spree, Yves indicated that he was lonely, sad, and tired. He missed his family and really didn't care anymore. He had been living on the street prior to his arrest, and was heavily into drugs. Yves became a ward of the government when he was four years old. His father was in prison serving a life sentence, and his last contact with his mother was more than a year ago when she wrote to him in jail, to inform him that she was dying of cancer. She left no forwarding address or phone number to enable Yves to contact her. Consequently he was uncertain as to the fate of his mother. Yves' older brother was also in prison and his only sister was in a drug and alcohol rehabilitation program, at the time of the study. He spoke kindly of his maternal grandmother and mentioned some of the things he remembered learning from her. For example, he remembered his Grandmother telling him that birds are smarter than a lot of people because they have the good sense to build a nest before they have babies. He indicated that he really had not understood what she meant until recently. He had no contact with his family during his time at EYOC, except for the letter that he received from his mother He recalled missing his family a great deal as a child, and this does not seem to have abated over the years[16].

Yves had lived in several foster homes and group homes, though he ran away from most of the places where he had been sent to live. He talked about two foster homes that were really bad, and two others that were really good (from which he didn't run). In the " bad" foster homes he remembered being "badly beaten, and severely punished." That the memories were terrible and haunting became obvious from his demeanor and the great sadness that seemed to overcome him. He described how he was repeatedly slapped in the face and made to stand in the corner for hours. He also recounted an incident where "I was made to walk in rubber boots and a light jacket two miles in the snow, back and forth, and I had to continue 'til I said I did it." This had to do with an incident where he was accused of stealing a watch that had gone missing in the home. Yves indicated that he had not stolen it, but rather had gone looking for the watch and found it once he had learned it was missing. He remembers thinking that he had done something really great by finding this watch and was anticipating praise and comments like "thank you" and "what a good kid." Instead he was punished until he was so cold and tired that he had to "lie" and say he stole the watch, just to be beaten and additionally punished for having said he "found" it and causing all that commotion. One can only imagine the impact of such an incident on Yves' perceived sense of justice, of self and of adults in general. It is a testament to Yves' resiliency that he remains as motivated as he has, and that his sense of self worth is as intact as it is, given the lack of family support and harsh treatment that he received during his developmental years.

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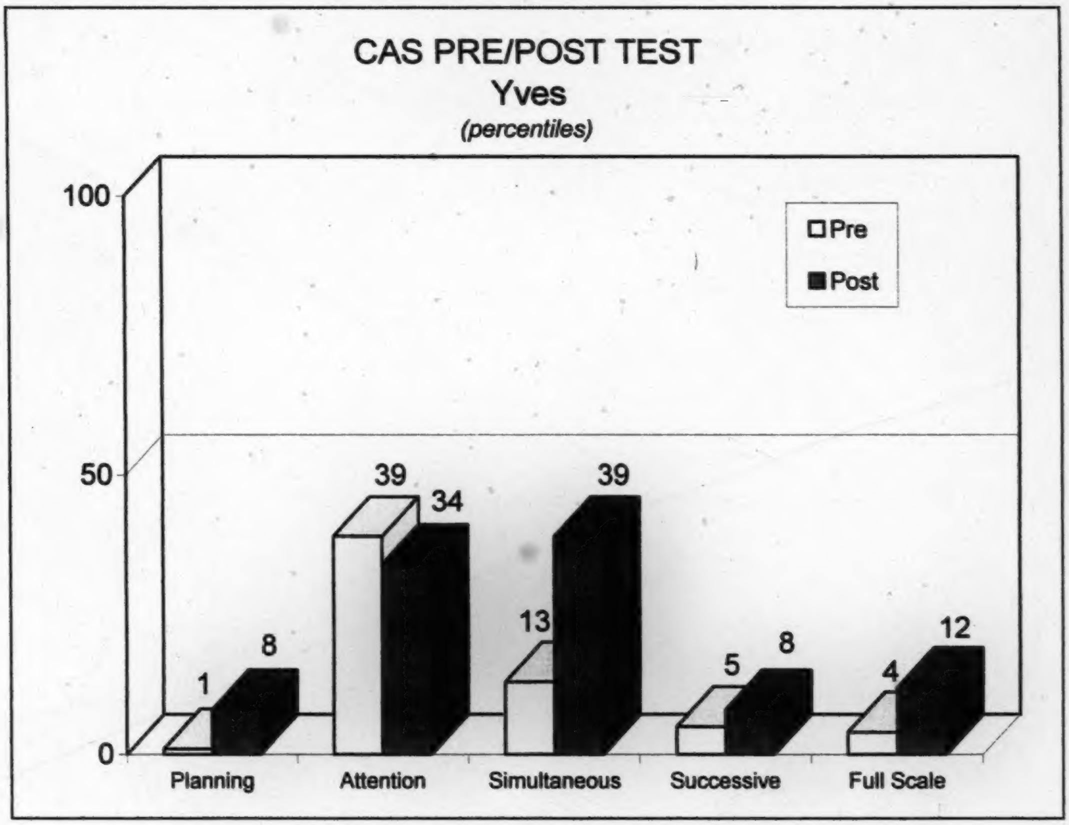
[16] In the author's opinion being essentially an "orphan with parents" is one of the worst fates ever to befall a child! Research indicates that neglect (i.e., no contact) "is associated with more serious language problems than neglect alongside abuse" (Hildyard & Wolf 2002, p.686). It would seem that even contact in the form of physical abuse is less harmful than no contact at all, because abusive parents may be less "emotionally detached and disinterested" than neglectful parents (Hildyard & Wolf, 2002).

When asked what was "good" about the good foster homes, he indicated that "the foster home people were nice, they were O.K. people and liked what they were doing. They treated me fairly and I felt like I belonged. There were other kids there too and everyone seemed to get along." He doesn't know why he was removed from these two homes, only that it was not by his choice. While in care, he always felt that some day soon he would be going back to his parents. To wait year after year for something that never happens must be truly disheartening, yet Yves has managed somehow to survive, to remain optimistic, and to continue to try improving himself, despite what can only described as dreadful circumstances.

Cognitive Functioning

Turning to Yves' cognitive functioning, the CAS has a well documented history of being a useful tool in identifying delinquent adolescents, as well as areas of strength and weaknesses, and indeed it was very helpful in identifying these areas for Yves (See Figure Y-1). His highest pre test score on the CAS was on Attention, and this score was significantly higher than his other scale scores and not altogether characteristic of YO

Figure Y-1. Histogram of Yves' CAS Pre Posttest Results.



*(For the young men 17 and older, the norms for 17 year olds was utilized.)

profiles, in general. As YOs quite often experience difficulties with successive processing as well as with planning and attention, one might have expected that Yves would show a similar pattern. However, what must also be considered is that Yves may have experienced more extreme life circumstances than many YOs as he had very little positive contact with his family from the time he was an infant, and virtually no contact with his family during his adolescence. In my experience, the families of YOs usually continue to have contact with them even when they are in foster care and/or in jail. As well, in addition to enduring ongoing rejection as a result of being abandoned by his family, he had to endure multiple foster care placements, chronic abuse and neglect, lack of stimulation as a preschooler, and ongoing difficulties in school.

Yves' scores on the CAS were usually comparable to the scores he obtained on his academic testing. Results indicate that Yves experienced significant difficulties with Planning and Successive Processing, and that Attention (specifically Expressive Attention) was an area of relative strength for him. His Full Scale Score[17] (providing an index of the overall level of an individual's cognitive functioning) of 73 is considered below Average[18] and found in only 6.8% of the standardization sample, indicating that he performed as well or better than only 6.8% of the children his age in the normative group (Das, 1997). He received a pre test score of 65 on the Planning Scale which measures ability to program, regulate, and verify behaviors and functions under the supervision of the attention system, and includes a subtest of Matching Numbers, Planned Codes and Planned Connections (scores all within a close range). This low score was found in only 9.7% of the standardization sample, and is deemed a significant weakness at a .05 level (given his Full Scale score[19]), and places him in the Well Below Average range. Given his score on the Planning Scale, it is likely that Yves will experience significant difficulties with self-control, organizing his actions, and making use of feedback, especially when he is not functioning within a very structured and predictable environment such as EYOC. His lack of planning skills will also influence his writing tasks, and arithmetic, as evidenced by his test scores, and written work. An area of relative strength on the pre test for Yves was the Attention Scale where he received a score of 96 (Average Range), deemed a significant strength (at a .05 level[20]), and found in only 7.5% of the standardization sample (given his Full Scale score[21]). The Attention Scale measures behavior involved in allocation of resources and effort, and includes a subtest in Expressive Attention, Number Detection, and Receptive Attention. Most of his strength in the area of Attention was the result of having received a very high mark in the Expressive Attention subtest, found in only 1% of the standardization sample (considering his scale score). The Expressive Attention subtest measures selectivity and the ability to shift attention. An area of significant weakness (at a .05 level) for Yves was in the Receptive Attention subtest which involves detecting target stimuli while avoiding distracting stimuli, and has been shown to be sensitive to reading disability and attention disorder. (This low a score was found in only 2% of the standardization sample, based on his scale score). The differences in scores on these two subtests indicate that Yves can be selective and has the ability to shift attention when completing a task, but only under certain conditions.

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[17] Scaled scores (mean =100, SD =15) are used in the text to indicate performance on content material. Percentile ranks are used in the graphs to indicate performance relative to peers, based on US norms for the CAS.

[18] Refer to Appendix E for descriptive categories of scaled scores.

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[19] The Full Scale score is used as a point of reference, and is helpful in determining areas of relative strengths and weaknesses when Scale scores differ significantly from it.

[20] Confidence levels, as well as all predicted or expected scores referred to in this paper were obtained from tables listed in the various test manuals. For instance, details describing the use of levels of confidence and levels of significance can be found on page 155-158 of the CAS manual.

It should not be surprising then that Yves' scores are not entirely characteristic of most YO CAS profiles. Perhaps this ability to attend is a skill that Yves developed as a means of avoiding abuse by becoming very attentive to environmental cues. This type of hypervigilance has been suggested by other researchers working with chronically abused children (Walsh, 1990). The remainder of his scale scores seemed to follow a more characteristic profile, as did the pattern of significant strengths and weaknesses within various subtests of a given scale, something that had previously been noted in research with YOs. Uncharacteristic, however, was how low all his scores were. His low marks are understandable based on his life experiences and the deprivation that he might have endured during certain critical stages of development and the consequences of these deprivation on subsequent developmental tasks.

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[21] Comparing the PASS Scale standard scores to the child's average of those scale scores allows for intraindividual interpretation, and thus the practitioner is able to determine if one or more of those scores is significantly higher or lower relative to the child's own performance/functioning. Such comparisons are made for each scale and between each scale's subtest (refer to page 16 of this paper for further explanations).

His life circumstances certainly seem to have enabled him to develop an ability to be selective and shift attention on demand. Perhaps this skill developed as a result of his specific life experiences that required him to be more attentive as a matter of survival, because of the many different living situations that he had to endure and learn to manage during his developmental years.

Yves' Simultaneous Scale pre test score of 83 is in the Low Average range. The Simultaneous Scale requires the integration of separate components into an interrelated array utilizing nonverbal and verbal content, and consists of Nonverbal Matrices, Verbal/Spatial Relations, and Figure Memory subtest (all subtest scores were very close in this scale). Yves' score on the Simultaneous Scale indicates some difficulty problem solving with tasks that demand complex integration of information. Yves' Successive Scale pre test score of 75 is in the Below Average range, and found in only 6.8% of the standardization sample (given his Full Scale score). The Successive Scale requires awareness and appreciation of the serial organization of events and includes a subtest in Word Series, Sentence Repetition, and Speech Rate/ Sentence Question (all subtest scores were within a close range). He demonstrated considerable difficulty remembering and understanding linearly related information. Yves' pre test score on the Simultaneous and Successive Scales indicate that his ability to understand and comprehend narrative speech would likely be quite limited. Significant differences (at a .05 level) were also found between various scales including Planning (65) and Attention (96) (this size of difference was found in only 1.7% of the standardization sample), Planning (65) and Simultaneous (83), and Attention (96) and Successive (75). It would seem that, for Yves, some aspects of attention provide foundational skills that he is able to utilize. However, his coding (the working skill) and his planning (the superordinate skill) are not very strong overall. Even if Yves' coding skills were better, his planning skills appear quite truncated and would likely make abstract thinking and organization of data difficult for him. There are obviously many developmental reasons why his skills have apparently not matured as they ideally might have.

General Health Concerns

General health concerns, including lack of appropriate nutrition, poverty, maltreatment, lack of adequate stimulation and role models, have been documented as having an impact on neurological development. Serious accidents, as well as general health concerns, are found in much higher numbers in YOs than in the general population, as is early onset polysubstance abuse. All of these factors have relevance for Yves. He remembered being physically healthy as a child and only being in hospital once for third degree burns from hot tea. As well, he was once knocked unconscious in a fight. He denied ever being sexually abused and reported that, although he has never had any previous suicidal attempts, he did experience some suicidal ideation "when I was about 14 and really struggling with life." He reported that he got along well with his peers, that most of them were antisocial and that " I hung out with a gang, but I wasn't in the gang." He recalled spending most of his time with other kids, and seldom spending time with adults. He had never had a paying job, which is quite remarkable given that he is 19 years old, despite his life circumstances, to date.

Health and Substance Abuse

Yves indicated that he was approximately eight years old when he started using alcohol, with his older brother and sister (five and two years older, respectively). He was approximately nine years old when he started doing drugs with his brother. He had tried acid and cocaine, but his drug of choice was pot because it just makes him quiet. (When he does other drugs or uses alcohol he is more likely to be loud and get into trouble.) He was never involved in drug trafficking. He participated in some drug and alcohol treatment programs at EYOC as well as at Alberta Hospital Edmonton (AHE), and felt that he had made some progress in dealing with his addictions although he had not completed his treatment at AHE, due to difficulties getting along with his therapist. When asked to explain what the difficulties were he remarked that she was not a "good listener" and that their sessions seemed to be more about her than about him[22]. He reported that he tried several times to address the problem with her, as well as with her supervisor, to no avail. Finally he got frustrated and said he wanted to go back to EYOC, though he did say during our interview that "I had to follow through even though I realized that it was probably not in my best interest." "Being in EY you get used to saving face. Here you have to save face." He appeared sorry to have left AHE despite the difficulties he experienced. He commented, "Here at EY there is much negative energy. Here everyone is my friend and no one seems interested in learning anything new." Inability to stay away from drugs remained his number one concern upon leaving EYOC, with good reason, as while on drugs " I've done some pretty bad things that landed me in here for a long time" (unlawful confinement, assault with a weapon x2). As evidenced by these comments, Yves seems quite perceptive, and shows a good understanding of people and cause and effect, in certain situations.

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[22] This therapist has been known for ongoing difficulties with several other patients.

Integrating health and cognitive factors

It seems quite likely, based on testing results, that Yves' neurological development has been hampered by his early drug use, especially given that he was a polysubstance abuser by age nine. This is in addition to living through and dealing with the consequences of 3rd degree burns, being knocked unconscious, ongoing abuse, neglect, and rejection, and constantly running away. There is also the ongoing sadness and loneliness that resulted for Yves as he continued to yearn for his family from the age of four after being abandoned by them to foster care. Yves never looked more sad and forlorn than when he talked about his family. Such deep emotions from an early age, in addition to all the other factors that he had to contend with, are likely to have had an impact not only on his emotional wellbeing, but also on his overall development, including the neurological areas.

Sensory/perceptual challenges

Sensory/perceptual visual and auditory processing challenges in YOs have been documented in the literature review (Bleything, 1997; Johnson, 1989; Karniski et al, 1982). Yves displayed similar challenges. Although Simultaneous and Successive Processing involve both visual and auditory processing, simultaneous processing primarily involves intake and processing of visual stimuli – working with spatial information, while successive processing primarily involves auditory processing – working with sounds in a specific order. Challenges in simultaneous or successive processing could therefore be interpreted as challenges in visual and/or auditory processing.

Yves' scores on Simultaneous and Successive processing indicate that he is experiencing both visual and auditory challenges. Yves' pre test score on Simultaneous Processing was at the 13th percentile, while his score on Successive Processing was at the 5th percentile. However, after remediation with PREP he scored at the 39th percentile on Simultaneous Processing, but only at the 8th percentile on Successive Processing. The posttest scores indicate that, although Yves was able to make significant gains in working with spatial information (visual processing), unfortunately he was not able to make similar gains in working with sounds in a spatial order (auditory processing).

Response to PREP Remediation

After eight weeks of intervention that included the PREP, all but one of Yves' scores on the CAS had improved (the Attention Scale [94] remained basically the same, likely due to a maximum effect, given his current functional levels.). This improvement is not likely the result of a practice effect, as the CAS has demonstrated good test retest reliability across age groups over time, even for periods shorter than 8 weeks (Nagliari & Das, 1997). His Full Scale posttest score of 82 places him in the Low Average category (found in 14.5% of the standardization sample [Nagliari & Das, 1997]), but above what would have been predicted by his Full Scale pre test score of 73 (refer to p.21 for information on predicted scores and Full Scale score). Yves' experience with the PREP appeared quite helpful, as might have been predicted from results presented in the literature review, which indicates that remediation with PREP has been shown to be very effective for young people who experience difficulties learning primarily through content based instructions. These results are even more impressive when one considers just how low his pre test scores were on the CAS. His most significantly improved posttest score was on the Simultaneous Scale where he achieved a score of 96 (all subtest scores were very close in this scale), that placed him in the Average range and above what would have been predicted by his pre test scores of 83 (refer to Figure Y-1 for pre test scores). Apparently Yves was able to benefit significantly from his remediation with PREP in the area of simultaneous processing, as could have been predicted since PREP is primarily designed to improve this processing ability. His posttest score on the Successive Scale (79) was still in the Below Average range. The Successive Scale requires awareness and appreciation of the serial organization of events and was inflated by his score on the Sentence Repetition subtest, which requires the participant to repeat a sentence exactly as it is presented. Yves' score on the Sentence Repetition subtest was exactly twice as high as his scores on the other two subtests that make up that scale (a definite area of strength). Such a discrepant score was found in only 1% of the standardization sample, and is therefore extremely atypical. It would seem that Yves' strength in attending enabled him to successfully parrot back the necessary sentences, but that he continues to struggle with information that is linearly related. This pattern of obtaining very high scores on one subtest is something that has been shown to occur with other YOs (Enns, 1998).

His score on the Attention Scale (94) was similar to his pre test scores. As in the pre test, most of his score on that scale was the result of receiving a very high mark in the Expressive Attention subtest, found in 12% of the standardization sample considering his scale score. The Expressive Attention subtest measures selectivity and the ability to shift attention. Once again, an area of significant weakness (at a .05 level) for Yves was in the Receptive Attention subtest which involves detecting target stimuli and avoiding distracting stimuli, and has been shown to be sensitive to reading disability and attention disorder. (This score was found in only 7% of the standardization sample, based on that scale's score). Yves' scores on these two subtests continue to indicate that he can be selective and has the ability to shift attention when completing a task, but seemingly only under certain conditions. His posttest score on the Planning Scale (79) placed him in the Below Average range (all subtest scores were very close in this scale), but this still remains an area of cognitive weakness. However, the increase in his Planning score is noteworthy because one would not expect that a foundational area (basic skill set) would improve so quickly. Again, significant differences (at a .05 level) were found between various PASS scales: Planning (79) and Attention (94); Attention (94) and Successive

(79); and Simultaneous (96) and Successive (79). This means that Yves demonstrated areas of significant strengths and weaknesses as evidenced by the differences in his scale scores.

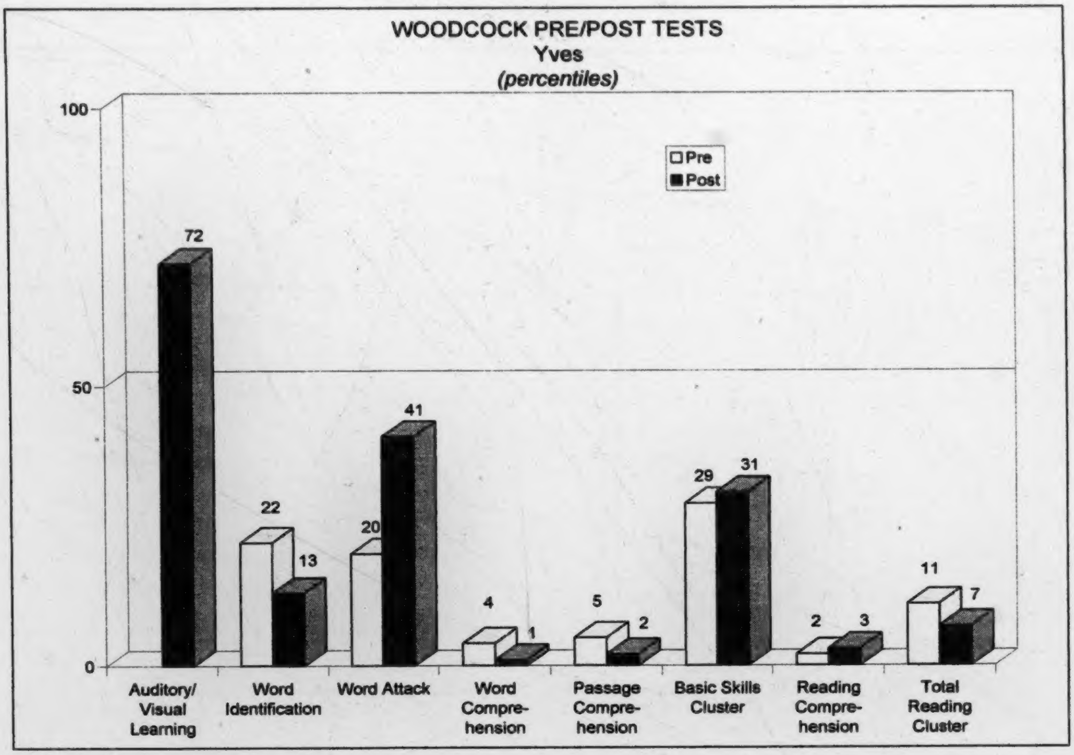
Overall, Yves' scores on the CAS indicate that he is likely to continue struggling with normal daily functioning in general, and with academics in particular, due to cognitive difficulties. His low Planning scores suggest that it will be difficult for him to think ahead and make better decisions over time. Consequently, his life experiences have not only had a negative impact on his cognitive functioning, but have also had a potential impact on his future choices and life circumstances. To his credit however after only eight weeks of intervention, Yves did manage to increase his scores on the CAS, especially on the Simultaneous Processing Scale to an even greater degree than would have been predicted by his pre test scores. This would seem to demonstrate a potential for learning when provided with favorable circumstances and appropriate remediation. That Yves enjoyed his remediation with PREP was obvious from his comments and his demeanor as well as from his results. His ongoing motivation during remediation was likely the result of enjoying the "exercises," experiencing ongoing success, and one to one attention and support.

Reading and Math

It has been well documented that YO recidivists experience many academic challenges, read at approximately the 5th or 6th grade level, are more than three times as likely as a nondelinquent population to have repeated a grade in school, to have attended four to six schools before dropping out, and to have had a long history of truancy, suspensions and expulsion. Yves' school history displayed similar factors of underachievement. He reported attending approximately 11 schools (not counting EYOC where he is currently attending), having never failed a grade, but having been in special education for falling behind in his school work. He remembered liking school when he was younger, but hating it as he got older, likely as a result of having developed few foundations skills on which to built. He was suspended for fighting in grade four and was expelled once for setting fire to paper in the classroom (with a friend). He also remembered really liking math and science when he was younger, and that the teacher never called on him for answers in school. Yves stated that he never really had storybooks when he was growing up, and that he did not recall anyone reading to him as a child. He was not able to read before he started school, and he does not remember anyone ever being interested in his school performance, homework or his grades. He did remember watching a lot of TV and playing video games (when they were available). When asked what he would do as a parent with his own children, he remarked " I would make sure I knew who their friends are, and I would make sure they had what they needed." This remark is typical of Yves' insight, which is surprising given that his cognitive functioning is so obviously compromised in other areas.

Yves' scores on the *Woodcock Test of Reading Mastery* are presented in Figure Y-2. His pre test scores indicate that his word, passage and reading comprehension were barely at a grade five level. His posttest scores on the same

Figure Y-2. Histogram of Yves' Woodcock Pre Posttest Results.



*(The Auditory/Visual subtest was only administered during posttesting, as it was not available for the pre test.).

measures indicate that he was functioning below a grade four level[23] during this assessment. Many of his pre test scores were below what would have been predicted given his CAS scores (refer to p. 16 for more information on Woodcock scores predicted by the CAS), and are indicative of an ability/achievement discrepancy. Given his scaled score of 96 on the Attention Scale, the following scaled scores are significantly lower than predicted (at a .05 level): 77 on Passage Comprehension (found in only 4% of the standardization sample); and 67 in Reading Comprehension (found in only 1% of the standardization sample) (Woodcock, 1987). These scores are consistent with his successive processing ability that would seem to have impacted on his ability to retain linear information.

Yves' scores of 87 on Letter-Word Identification, and 89 on Basic Reading are significantly higher than predicted (at a .05 level) given his Full Scale (73), Planning (65), and Successive scores (73). They therefore represent relative areas of strength for him (but not in comparison to others), and would seem consistent with his high score on the Expressive Attention subtest of the CAS. Yves' posttest scores show similar patterns of relative strengths and weaknesses. An area of considerable strength for him was the Auditory /Visual subtest (standard score 125, 16.9 grade equivalent), a miniature "learn to read" task using rebuses to represent familiar words, subsequently used to make sentences. The Auditory/Visual subtest assesses one's ability to form associations between visual stimuli and oral responses and requires simultaneous and successive processing, as well as attention. This test score is much higher than would have been predicted by any of his other pre or posttest scores, and may in part have been the result of the success and consequent confidence that he gained during remediation with the PREP. Yves' enjoyment with the PREP Global tasks appeared to be because they contained no "school like" content. This seemed to allow him to concentrate on the task at hand without the anxiety that comes from attempting work that has consistently produced fear of failure in the past, and all the distractions inherent to this. His score of 94 on the Attention Scale and 96 on the Simultaneous Scale indicate that the following scores are significantly lower than predicted (at a .05 level): 81 on Letter-Word Identification; 72 on Passage Comprehension (found in only 5% of the standardization sample); and 67 on Reading Comprehension (found in only 3% of the standardization sample). His Full Scale score of 82, and his Planning score of 79 would have also predicted a higher score (at a .05 level of significance) in Reading Comprehension (67). Nonetheless, Yves' posttest score of 97 on Word Attack is significantly higher (at a .05 level) than would have been predicted given his Full Scale score of 82, and Planning and Successive scores of 79. This significant increase on Word Attack is an example of "far transfer"[24] of learning, which may be discussed within the context of PREP intervention, a phenomenon observed with other students in various studies utilizing the PREP Remedial Program (Das, Naglieri, & Kirby, 1994). Far transfer is believed to have occurred because Word Attack and PREP remediation share the same principals of learning. Word Identification on the other hand, does not usually increase as dramatically because PREP builds on phonological coding and Word Identification contains many irregular words that cannot be phonologically analyzed. Yves' Basic Reading Skills score of 90 is also significantly higher (at a .05 level) than would have been predicted given his Successive score of 79.

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[23] As will be discussed later, there was a great deal going on for Yves during posttesting.

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[24] Far transfer entails abstraction and reflection (and) uses forward anticipatory reflections as well as "backward inferencing." It is based on inductive reasoning rather than on deductive inferring and occurs only when a person has internalized the necessary principles, as a result of his or her own experience (Das, Naglieri, and Kirby, 1994, p.168). Far transfer is observed in other standardization tests of reading and math, for

According to Woodcock (1987), there can be several likely reasons for discrepant aptitude/achievement scores such as instruction which was unsuitably challenging, impoverished backgrounds, distinctive learning disabilities, emotional or hearing difficulties, and being uninterested in reading. Yves' difficulties with language (as outlined in his TOAL test results that follow) help to explain his low marks on some of the CAS and the Woodcock Test of Reading Mastery, and make his areas of strength quite remarkable. It is likely that Yves' ability to pay attention serves as a compensatory skill, developed of necessity because of the environment in which he grew up.

Yves' scores on the *KeyMath* are displayed in Figure Y-3, and indicate that he was functioning at approximately a 4th to 5th grade level. His pre and posttest scores were all within the Markedly Below Average, and Below Average range (Connolly, 1988).

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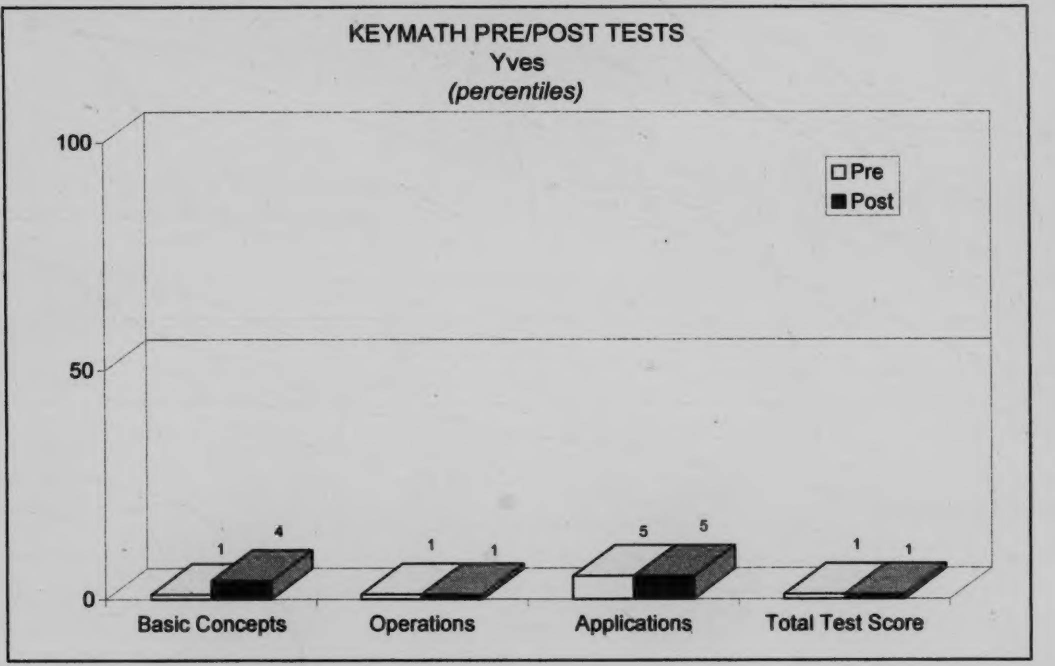
instance.

Figure Y-3. Histogram of Yves' KeyMath Pre Posttest Results.

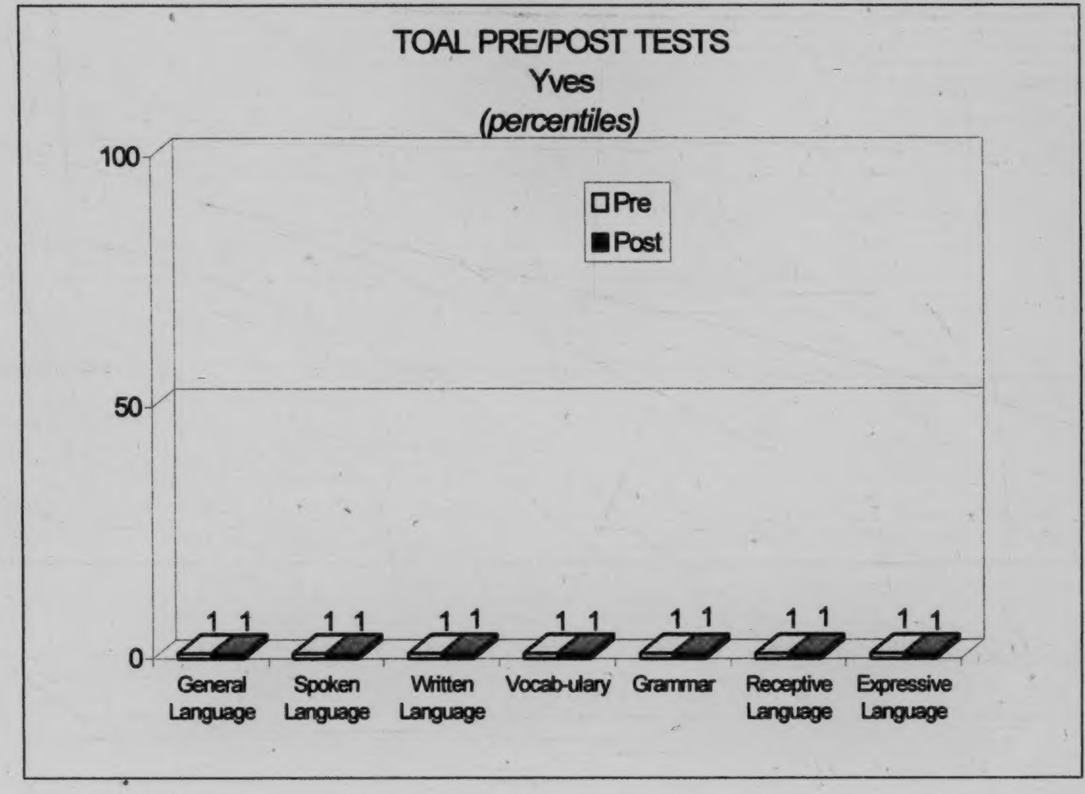


His pre and post scores on Basic Concepts, assessing basic understanding of elementary arithmetic, were in the Markedly Below Average range. His scores in Operations, assessing comprehension of numeration and rational numbers, were also in the Markedly Below Average range. He earned pre and posttest scores in the Below Average range on Applications, based on the abilities and learning measured in the other two areas, and accepted as requiring the greatest degree of proficiency in Math. There were no statistically significant differences between any of Yves' area scores, which indicates little discrepancy between his knowledge, skills and capabilities. Yves' poor scores in Math are in accord with his low score on the Planning Scale of the CAS. Good planning skills are essential for a satisfactory performance on Math tasks.

Language

Yves' pre and posttest scores on the *Test of Adolescent and Adult Language-3 (TOAL)*, as displayed in Figure Y-4, are remarkably poor on all the subtests, an indication of his limited overall language abilities (Hammill, Brown, Larsen, & Wiederholt 1994). That he communicates as well as he does is quite remarkable, given his scores on the TOAL. The TOAL is designed to identify adolescents and adults whose scores are significantly below those of their peers, as well as to identify areas of relative strength and weakness across language ability. When reading is a problem, language skills are often also an area of concern. Results of the literature review clearly indicate that living in a home where there is little stimulation and restricted interactions can have a very deleterious impact on language skills, and this appears to have been the case with Yves.

Figure Y-4. Yves' TOAL Pre Posttest Results.



Yves' General Language composite pre test score (60) was in the Very Poor Range (a score found in only 2.34% of the general population). The General Language[25] composite is the best evaluation of general language ability, and depicts an individual's global proficiency relative to reading, writing, listening and speaking. Yves' pre test scores in the Spoken Language composite (63), Written Language composite (60), Vocabulary composite (58), Grammar composite (65), Receptive Language[26]composite (65), and Expressive Language composite (58) were also in the Very Poor Range, as were his pre test scores on the Speaking subtest (61), Reading subtest (64), and Writing subtest on the TOAL were in the Very Poor Range. Given Yves' pre and posttest scores on the TOAL, it is obvious that his language skills place him at a serious disadvantage when it comes to communication and school performance. Perhaps serious neglect, combined with very little stimulation, in addition to lack of positive relationships and ongoing support and interactions, as well as frequent changes in schools, were some of the contributing factors to his low scores. These deficits in language will not likely improve much over time, and consequently are likely to continue to impinge on Yves' choices and life circumstances.

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[25] On the TOAL graph, only the composite percentile scores are shown. The subtest scores are included in the text to facilitate understanding of relative areas of strengths and weaknesses, within the composite scores.

[26] Research indicates that echolalia is more apt to occur with children who experience poor receptive language skills (Roberts, 1989, Cantell, Baker, & Rutter, 1978).

Yves' overall test results would indicate that he is likely to be seriously hampered in day to day life as a result of inadequate communication and academic skills. It seems that his life experiences have had a significant negative impact on his cognitive functioning. In addition to the lasting impact of neglect and abuse, it is likely that not being exposed to print as a preschooler has had a deleterious impact on his ability to develop his language skills, and subsequent developmental tasks that build upon previous competencies. His cognitive development was also likely impaired by his extremely early polysubstance abuse. As well, his school experience was very chaotic with frequent school changes, in addition to being suspended and expelled. Consequently, Yves never had the opportunity to experience the necessary conditions that would have enabled him to fully develop his cognitive potential.

However, given an improvement in performance on several test scores after only eight weeks of intervention, there is reason to be optimistic for Yves. He seems to have responded in a very favorable manner to PREP (from the learning of strategies, and one-on-one attention and support). His gains are also noteworthy given what was happening in his life just prior to posttesting. He went on a pass the day before posttesting began. This was Yves' first time in 31.5 months to legitimately spend time away from the institution, to wear his own clothes and shoes, and to eat "real food." Yves was due to be released less than a week after completing posttesting. He was somewhat apprehensive about the new place that had been arranged for him to move into. He was also dealing with all the anxieties and fears that come with leaving an institution after a relatively long period of incarceration, particularly given his young age. It is quite likely that Yves' posttesting may have been significantly affected by what was going on for him during this time period. Research indicates that a person whose affective state is driven by anxiety and/or stress is less likely to focus on the task at hand (Bless, 2001), or to process information in an effective manner (Scott & Burns, 2002) due to the demands of the affective state on processing resources. A greater cognitive load (as a result of the affective state) means that fewer resources are available to process incoming information, and consequently lower order processes which occur spontaneously (because they make fewer demands on available processing resources) are utilized (Shiv & Fedorikhin, 2002). For Yves, this likely meant that fewer intellectual resources were available to allocate to the processing of incoming information. Thus it is possible that his posttest scores are to some degree an underestimation. Yves appears to be doing as well as he can given his past life circumstances. He has a willingness to continue learning, and ability to focus on the task at hand.

During the 10 weeks that I got to know Yves, I was privy to different aspects of his personality. At times, especially when he was engaged in working on an assigned task, his mannerisms and demeanor reminded me of a little boy of about six years of age, preoccupied with something of great interest. He appeared totally engrossed in the activity, and filled with excitement and anticipation, At other times he presented as mature, and perhaps even a little sophisticated, as he talked about his life and his hopes for the future. He demonstrated an interest in me, and my research project. For instance he noticed that I had gotten a haircut, kept track of how many sessions remained, and observed that I really wanted to help but was respectful of him and offered help, then just sat quietly until he asked for assistance. Other aspects of Yves' personality became obvious during his interactions with various peers. Although he was always observed as being "appropriate" with his peers, his need for "posturing" with some peers was evident, at times, such as when he stated to a peer that he was only in this study because it would look good with staff. Also evident was the degree to which Yves had become institutionalized. For example, he knew just what to say and do not to get in trouble, based on whatever staff was present. Yves had been on level four (highest level, based on appropriate behaviour) for over a year, an indication that he had learned the rules and was willing to follow them (as well as knowing which staff members would enforce which rules, etc.). He had earned a reputation for not getting involved in illegal activities in the center, and was known by other YOs for being "solid" and not being "a rat." He would rather have suffered the consequences than "tell" on anyone, and tried to encourage those headed for "trouble" not to involve him and go do their "stuff" away from him. He remarked that he did not get involved in the "bad" stuff and that having that reputation meant that very few YOs ever asked him to get involved in it. He mentioned that he was not out to set an example, he just wants to do his "time." Yves was not afraid of doing "good things" as well. For instance, he took part in the Rick Hansen Run held in the center and was quite proud of having outrun everyone who participated. He said he tried really hard because it was for a good cause. He spoke of this run with pride, as he did of other accomplishments. Yves' ongoing need to be accepted for "good" behavior continues to be apparent, but not surprising given his life circumstances, for example the watch incident when he was quite young.

Yves' Experience with Remediation

The connection between academic underachievement and recidivism (Archwamety & Katsiyannis, 2000), as well as the necessary components for successful remediation have been documented, and key components include using a structured, focused approach, which include a cognitive component to address process and strategies as well as attitudes and beliefs, and also include intensive offender participation (Coffey & Gemignani, 1994; Cunliff, 1992; Maguin & Loeber, 1996; Simpson, Swanson, & Kunkle, 1992). The PREP remedial program meets all of these basic requirements and appeared to be a viable option in the remediation of academic difficulties with Yves. There is evidence to suggest that Yves' cognitive functioning improved as a result of PREP. He made significant gains in Simultaneous Processing, as well as some gains in Successive Processing and Planning. In addition, PREP offered Yves increased confidence in his ability to do "school stuff," and increased motivation to keep trying. That he showed any change at all, in such a short period of time, is quite remarkable especially in light of what he had accomplished during all his prior "learning" experiences.

Remediation for Yves included a series of 20 sessions over a period of eight weeks, with four sessions during the first week, three sessions each for the following two weeks, and five weeks of twice weekly sessions. He was able to complete the entire PREP program in 10 sessions, and 10 remaining sessions were spent on language arts type activities, such as analogies, anagrams, antonyms, synonyms, homonyms, homographs, reading for comprehension, and writing tasks. Each of these exercises was combined with various "mind bender" puzzles, such as the Tower of Hanoi, Mind Maze, and Rush Hour. These combined exercises offered opportunities to further enhance planning and attention skills, as well as simultaneous and successive processing ability.

During all the sessions, Yves was very focused on the task at hand, and appeared intent on putting forth his best effort. During the 20 sessions Yves only complained once about being tired, and was only somewhat distracted on two separate occasions by impending plans for his upcoming release. Yves completed all PREP tasks successfully and indicated that he really enjoyed them, especially exercises such as the Window Sequencing and Shape Design Global Task, Tracking-Global and Bridging, and the Transportation Global Task. At the beginning of the PREP sessions, Yves (as well as all the other young men) experienced some difficulties understanding directions mainly as to what he was expected to do for certain tasks. However, that problem did not persist, perhaps because he became more confident and less intimidated with each task and/or I got better at giving him instructions[27]. I realized that Yves, as well as the other participants, was responding much more readily to the question "What did you do to get that answer?" than to "What strategies did you use to get that answer?" (The word strategy was obviously unfamiliar vocabulary). He experienced some difficulties articulating what strategies he was using when he first started with PREP, but he soon got quite good at describing what he was doing to arrive at the correct answer. For instance, this is the strategy that he articulated for the Related Memory task wherein he needed to choose the proper front half of the word to match to the back half; "I just sounded them out first and then read them out in my head to make sure they made sense and I saved it or missed it." This is how he related his strategy on the Shapes and Objects Bridging Task that requires categorizing, classifying and understanding of key concepts; "It was just a matter of paying attention to the cards and like understanding like what kind of idea or like just what it said about it, or where it could go to like make sense, I guess."

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[27] Whatever the reason, Yves got much better at understanding instructions, perhaps due to increased motivation due to past, current, and anticipated success with PREP.

During the PREP sessions Yves appeared to be more observant of detail than did the other participants, which would seem congruent with his ability to attend. On the Tracking Global task the individual is presented with a "village map" with houses and trees. Tracking cards illustrate a path from a starting point to either a numbered house or lettered tree. The second part of this task involve a "letter map" and tracking cards with squares identifying letters of the alphabet which must be located on the appropriate lettered square. Yves was able to articulate that the latter task was easier than the former one because of double lines on the former task, and single lines on the latter task. "Umm, just the shape, the way the, umm, it was, I didn't get distracted by any other lines." On the Connecting Letters Global task, he was also the only one to make mention that the black and white example was more difficult, not only because there was no color coding to help, but also because there were extra lines, that went nowhere. " I noticed that there were extra lines in there, to throw you off a little bit, right?" Ability to pay attention is a strength for Yves, as demonstrated by his scores on the Attention Scale of the CAS. Also, through his comments Yves displayed insight into his own cognition as well as the ability to learn about ways to make his cognitive efforts more successful by understanding them better.

On the Tracking Bridging task, the participant needs to read a passage and then follow a map of West Edmonton Mall to find his way from a designated point of departure to a specific destination while incorporating all the specified features. Yves was the only one of the participants to mention (on the card requiring that he take his aunt with him on his outing to the mall) that he would show his aunt where he would be on his way to taking her to her destination. This way she would know how to find him, if she needed to. This showed a degree of thoughtfulness, a part of Yves' nature, which is remarkable given his past. On the Shape Design Global task however, Yves failed to arrange his colored chips according to their shapes as the other young men in the study had done[28], and consequently experienced more difficulty with this task than they did. To his credit, he was able to successfully complete this task but it was obvious from watching him that not prearranging the chips offered a considerable disadvantage. Yves' ability to articulate and utilize strategies from one session to the next, as well as his increased ability to notice similarities and differences as remediation progressed, are examples of "near transfer"[29]. Yves obviously enjoyed his PREP sessions because they seemed to offer him an opportunity to learn at his own pace and to experience success. As well, the PREP approach provided him with a new way of learning that he seemed to find captivating and motivating. He also appeared quite pleased that his efforts were noted and commented upon, another component that is built into the PREP approach. He seemed quite pleased and surprised at how well he'd done and how much he had learned. He stated, "I like doing this stuff because I get better at it every day. I never knew that you could make a plan to help you do stuff."

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[28] Ordering the chips in this particular manner was not a requirement of the task, but something that all the other young men chose to do, independent of each other. This served them very well, allowing them to concentrate on the display and memorize the pattern rather than on sorting the chips during the display.

It is likely that Yves benefited from remediation as much as he did because the PREP approach appeared to be an ideal way for him to learn, because he was not focused on content and consequently he was able to concentrate on what he was doing to obtain success. As well, from the PREP approach Yves seemed to learn that utilizing strategies made a task more "do-able" because he could then formulate a plan of action (strategize), rather than randomly attempt a variety of solutions. This is quite a learning experience for someone who until now has experienced life and problem solving as strictly a game of chance! This is probably why Yves found the PREP approach so motivating and captivating – because he was learning for the first time that he had some control over the situation at hand. He was also able to gain insight into his own cognition, making success more likely for him, and providing him with something to build on. When asked what he found the most helpful about PREP, he replied " I like how I learned to make a plan–you know-how to look at something and figure out the best way to do it. Before I just tried something, anything. Now I know to look at something, and decide on the best way to do it." Hopefully the knowledge he acquired with the PREP will help him turn this insight into positive action.

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[29] "Near transfer" refers to the transfer of learning to a new situation which occurs when the original and new situation are similar in context and procedure, or share the same principle of learning, or when the procedure of learning is similar, but the context is different. This type of transfer is brought about by divergent and sustained practice (Das, Naglieri, & Kirby, 1994).

With the remaining 10 sessions, Yves struggled more than the other young men with the language arts-type exercises although, with some help, he was able to successfully complete all of them. In reading comprehension, he appeared to understand the material better when it was read to him than when he read it to himself[30]. On the "mind bender" puzzles, Yves consistently did better than the other young men, as evidenced by the speed with which he was able to complete each puzzle. He seemed particularly adept at noticing patterns, and especially clever at finding solutions (skills congruent with simultaneous processing and planning on which he scored quite poorly). Perhaps this is another example of Yves' ability to successfully deal with tasks that produce none of the anxiety that he seems to experience when dealing with materials, such as tests, that he perceives as school related.

Yves appeared quite perceptive, overall. It was obvious that he enjoyed this portion of the session, and looked forward to it. He said, "I never had anything like this as a kid, if I had I bet I'd be even better than now[31]." All indications are that Yves really enjoyed his remedial sessions, especially the PREP Global and the puzzles, and would gladly have continued attending until his release. His ability to do puzzles far surpasses what would have been predicted by his scores on the CAS as well as on the other tests, and seemed more commensurate with his ability on the Auditory/Visual subtest (standard score 125, 16.9 grade equivalent) of the Woodcock. What both activities had in common was "no school content[32]."

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[30] He was always required to read the work initially and then, if he felt it would benefit him, I would read it aloud for him.

Yves was aware enough to realize that he should be able to do better on many academic tasks, and would often made comments like "Oh geez, I should know this," "Oh yea, I knew that's what it was," or "It was just on the tip of my tongue." I believe that it is quite likely that anxiety was a factor that got in the way of his ability to perform better on academic type tasks. This is supported by research that indicates that "previous achievement" has an impact on current performance (Mellroy & Bunting, 2002). Constantly being asked to perform tasks that seem somewhat overwhelming makes it less likely that one will be able to put one's "best foot forward," especially when failure has been the result of previous efforts with similar content. However given his scores on the CAS, it is likely that Yves would still experience difficulties with academic materials even if he were to overcome his anxiety in this area.

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[31] This is another example of Yves' insight.

[32] Yves particularly enjoyed the global PREP exercises, perhaps because there was no school content.

Yves' life has, for reasons already mentioned, not provided him with the opportunity to develop his potential and, given his experiences, his chances of making the necessary changes to his life presently seem quite limited, especially given his current level of intellectual functioning. However, it is likely that this functioning is not entirely representative of his actual potential. To his credit, Yves demonstrated a willingness to work on improving himself, as well as a capacity for learning, given favorable circumstances and suitable remediation such as the PREP.

A YO's risk of re-offending, as documented, is mitigated by several factors. The most influential of these include age of first incarceration, age of first arrest, academic achievement, and IQ. Given that Yves' experiences include first being incarcerated at age 13, being arrested for the first time at age 11, currently achieving at approximately grade four or five level, and that his IQ score is in the below average range, one would expect that he would re-offend within a short period of time after his release, and the potential impact of the remediation on recidivism must be analyzed within this context.

Yves did not reoffend for almost a year after his release. This is a much longer period than would have been expected, based on the amount of time he previously spent in the community between various terms of incarceration (3months). In October 2003, approximately eleven months after his release, Yves was convicted of one count of Failure to Comply with Probation (not reporting to his PO), for which he received a short custodial sentence. On the same day, he received a fine for being intoxicated in public. He was subsequently re-arrested and jailed at the beginning of February 2004, for not paying his fine. He was released at the end of February 2004, after a few days in jail. In light of Yves' criminal history to date, this is considered a success of sorts, given that he was first arrested when he was too young to be charged, has been incarcerated on over a dozen occasions, and that his last offence prior to the study involved unlawful confinement and assault with a weapon x2, for which he received two years confinement. This is in addition to the other factors that are known to influence a YO's chances of re-offending, such as academic achievement and IQ.

Indications are that Yves benefited from PREP remediation, not just from his assessment scores and by what he stated, but by his most recent behaviors. Although Yves has subsequently been arrested, he lasted in the community for a much longer period than he ever had before. As well, the crimes for which he was convicted this time are minor compared to those he had committed in the past. However, one must also consider that other factors might have been at play that made it more likely that Yves would cease offending, such as the long sentence he received and was serving during the study, as well as "maturing out of the system" as many YOs do once they are around 18 years of age. Whatever the reason, Yves seems to be in somewhat better control of his life, and this is considered quite remarkable under the circumstances.

Synopsis

Given Yves' life experiences, it is not difficult to surmise why he become a YO recidivist. He endured chronic abuse and neglect throughout his developing years, was four years old when he went into foster care, eight years old when he started doing drugs, and nine years old by the time he became a polysubstance abuser. He attended approximately 11 schools, never had storybooks or anyone to read to him, and had no one interested in his school life. He suffered the effects of constantly longing for his family. Obviously these experiences have had a significant impact on his cognitive functioning. What one might not have expected is how personable and insightful he has turned out to be, as well as how willing he remains to keep trying to better himself. It would have seemed quite understandable to me if Yves had turned out to be a real hard core offender, with little time or patience for anyone or anything that was prosocial.

Research indicates that many children who have lived and continue to live in high-risk environments "do not fully develop their resiliency until adulthood (White, 2002, p. 178)." Perhaps this is why in working with these young people it has become obvious over the years that those who seem the most likely to succeed don't always do so, and those who seem the most likely to fail don't always fail either. For Yves' sake, I hope that he will be one of those who makes it against the odds.

Erwin

Erwin is an 18 year old youth of Metis background. He is of average height and build. His upper body is well contoured as he has been doing weights during his time in EYOC. He presented as reticent, but pleasant and well groomed, with some echolalia. He indicated that he wanted to be in this study because he had problems with writing (composition) and spelling. He had completed all other "courses" offered in EYOC, such as AADAC and Anger Management. He was serving the remainder of a 4.5 month sentence for two counts of Failure to Comply with Probation; two counts of Failure to Appear in Court as Directed; Mischief/Damage to Property; Carrying a Concealed Weapon; and Possession of Stolen Property >$1 000. He was due to be released in mid

December 2002, and had no probation to follow. Upon release he plans on living with his girlfriend and her mother. He was first arrested when he was 12 years old but was not charged at that time. Although he was subsequently involved in a considerable amount of antisocial behavior, after his first arrest he was not re-arrested until he was 15. At this time he was charged and convicted and received a six month custody sentence, as well as one year of probation to follow. Although Erwin's history with the Justice system is not as extensive as Yves', it is apparent that remedial efforts, to date, have not been successful.

It becomes obvious, based on the description that Erwin provided in his interviews and other comments during his sessions, that he presents an example of childhood abuse, neglect, and poverty. The fact that his early developmental context contributed to behaviour problems can be assumed for Erwin based on the fact that he already has a long- standing history as a young offender.

Erwin's descriptions of his early development underscore the neglect and abuse that were so evident in his life. When asked what was going on for him during his last crime stint, he indicated that he was out of control and doing a lot of drugs, but was also the victim of circumstance and bad judgment. At the time of his last arrest, Erwin was living with his mother. Due to his father's heavy drinking, his parents had separated approximately two years prior to this. Erwin is their only child and was born after his mother had a tubal-ligation. She already had three children from a previous marriage and did not want any more children. Erwin indicated that he was lonely as a child, and spent a great deal of time by himself. His father was often away drinking and spending time with his friends and his other family[33], and his mother was either working or at bingo. Erwin's mother also had a drinking problem when he was younger, and at some point suffered from a "nervous breakdown" and is still under the care of a psychiatrist. At times she has had to turn to Social Services for financial help. Erwin indicated that when he was little his mother did not provide him with adequate supervision or the necessary boundaries, and that when he got older "she tried to put her foot down, but it was too late." By then, Erwin was very involved with negative peers, and had little interest in what his mother had to say.

Cognitive Functioning

Erwin experienced difficulties with successive processing as well as with planning and attention. However, his scores in successive processing would seem to indicate that processing is likely not implicated as the cause of his planning and attention difficulties. His results on simultaneous and successive processing could have been predicted based on his early developmental history – having a lot of books as a child, being read to by mom, being able to read before he started school, and a mom who was interested in his school performance, homework and grades. Yet he also indicated that once he was a little older he changed schools several times, that his dad showed little interest in him, except perhaps to physically abuse him, and that his mom was usually at work or at bingo, had drinking problems as well as ongoing mental health difficulties, which speaks of neglect. It would seem that some of his earlier basic needs were met, but that the neglect and abuse he suffered did affect his cognitive development.

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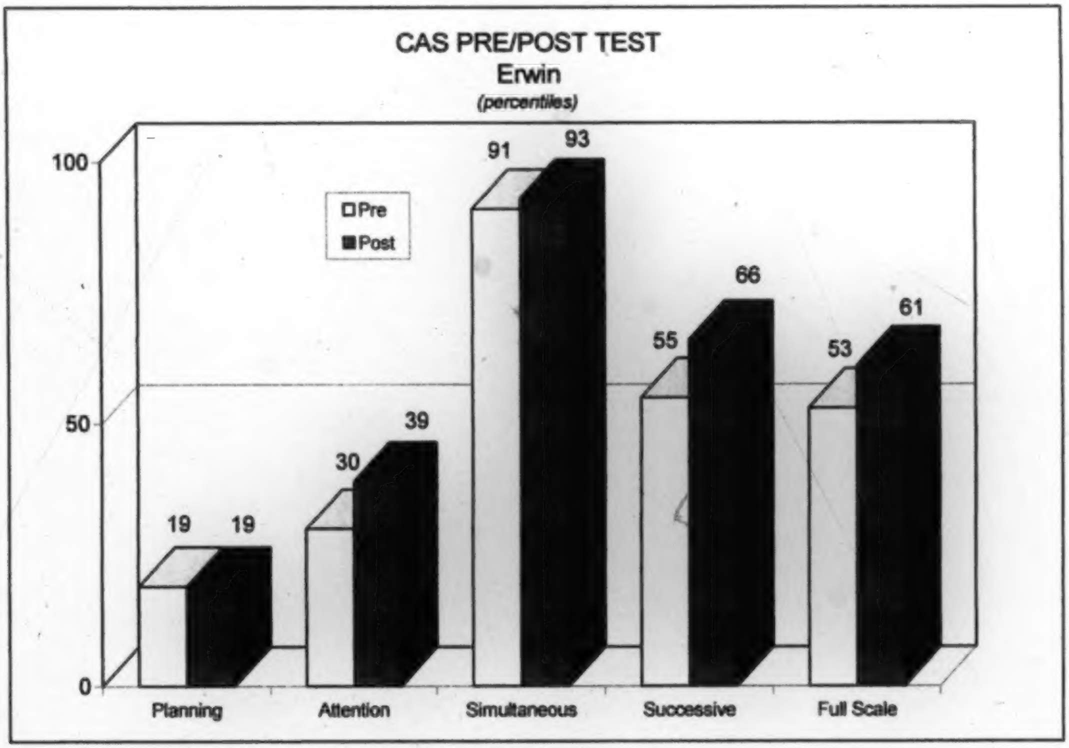
[33] Erwin's parents were never married, as his Dad is still married to his former wife.

Erwin's scores on the CAS (see Figure E-1) were usually comparable with the scores that he obtained on his academic testing, especially when his language difficulties were factored in. He demonstrated a pattern of relative strengths and weaknesses on his pre test PASS Scale scores. His pre and posttest scores on the *Cognitive Assessment System (CAS),* indicate that his intellectual functioning is within the Average range (see Figure E-1). His Full Scale score was significantly influenced by his scores on Simultaneous Processing. On the other hand his scores on Attention and Planning especially are very low compared to his scores on the other subtests.

His highest score was on Simultaneous Processing, and he consistently experienced his greatest difficulties in Planning. His area of greatest improvement was in Successive Processing. His pre test Full Scale score was 101. He received his lowest pre test score of 87 on the Planning Scale. This low a score (given his Full Scale score) is deemed a significant weakness at a .05 level. His score on this scale was considerably lowered by his mark on Planned Codes, which was more than twice as low as his marks on the other two subtests of Matching Numbers, and Planned Connections. Planned Codes is a timed test that measures a child's efficiency and ability to use strategies to complete a task. This low a score on this subtest, given his marks on the other two subtests, is deemed a significant weakness at a .05 level, and found in only 5 % of the standardization sample. Indications are that Erwin failed to develop an effective strategy to deal with the demands of this task. However, his score on the Planning Scale indicate that he is experiencing difficulties with planning as a whole. Erwin received a pre test score of 87 on the Attention Scale, placing him in the Low Average range. Compared to

Figure E-1. Histogram of Erwin's CAS Pre/Posttest Results



his score on the Simultaneous Processing Scale, his scores on the Attention Scale represent an area of relative weakness for him. An area of significant strength (at a .05 level) on the pre test for Erwin was on the Simultaneous Scale where he received a score of 120 (found in only 3.9% of the standardization sample), placing him in the Superior range. Erwin's Successive Scale pre test score of 102 is in the Average range. Given Erwin's scores on the Simultaneous and Successive Processing Scales, he should experience little difficulty with comprehension and basic arithmetic. (No substantial discrepancies were found among subtests within each PASS Scale, except for the Planning Scale previously mentioned). However, significant differences (at a .05 level) were found between the various scales of Planning (87) and Simultaneous (120) (this size of difference was found in only 1.2% of standardization sample), Attention (92) and Simultaneous (120) (this size of difference was found in only 1.2% of the standardization sample), and Simultaneous (120) and Successive (102) (a size difference found only in 2.1% of the standardization sample). These scores represent a profile of functioning that is very different than found in most of the standardization sample. It would appear that although Erwin is able to process the information that he receives, he has not developed the ability to attend and process effectively. Consequently he appears unable to utilize the information that he has processed to the degree that would be expected, under the circumstances.

General Health Concerns

Erwin remembered being physically healthy as a child. He had never been directly involved with Social Services. He had been in the hospital overnight for alcohol poisoning, and had gotten amnesia once from a punch to the head, but had never been knocked unconscious. He denied any history of sexual abuse, but indicated that he was repeatedly physically abused by his father, until he was old enough to start hitting back. He stated that he had thought about suicide "when I first came to EY a long time ago." He reported getting along well with his peers most of whom were antisocial, and he denied any gang involvement. He recalled spending most of his time alone as a child, watching TV and playing outside by himself. When he got out of EYOC the first time he got a job working at a "temp" agency, and quit shortly thereafter "before they could fire me." He was on the work crew at EYOC, and was considered one of their best workers. Although this was not a paying job and meant that he had to get up earlier than his peers, he did it because "it keeps me busy, and it's good training for when I get out."

Health and Substance Abuse

Erwin indicated that he was approximately 12 years old when he started using both alcohol and drugs. He indicated that he had "smoked pot," but mostly had done "a lot of chemicals," and had tried "crystal met," "amphetamines," "ecstasy," and "mushrooms." He had also been involved in some drug trafficking. He had attended some drug and alcohol treatment programs at EYOC. When he was younger, he was seen by a child psychiatrist for behavioral concerns.

Integrating Health and Cognitive Factors

It would seem that Erwin's early childhood experiences (preschool, perhaps) were such that they enabled him to develop adequate simultaneous and successive processing. However, it appears that his behavioral/social development has been hampered as a result of inadequate parenting, ongoing physical abuse, polysubstance abuse by age 12, alcohol poisoning, and head trauma. Erwin also described being quite lonely as a child, and this was quite evident by his demeanor as he spoke of this. From his account, it sounded like there were really no significant adult models available to him during his formative years.

Sensory/Perceptual Challenges

Erwin did not display sensory/perceptual processing challenges, likely due to having experienced more favorable developmental conditions during his preschool years, than is characteristic of most YOs. Erwin's scores on Simultaneous and Successive processing would indicate that he is clearly not experiencing visual and auditory challenges. Erwin's pretest score on Simultaneous Processing was at the 91st percentile, while his score on Successive Processing was at the 55th percentile. After remediation with PREP he scored at the 93rd percentile on Simultaneous Processing, and at the 66th percentile on Successive Processing. The posttest scores indicate that Erwin is especially adept at simultaneous processing working with spatial information (visual processing), and in the high average range when working with sounds in a spatial order (auditory processing).

Response to PREP Remediation

After eight weeks of intervention Erwin managed to increase all his scores on the CAS marginally, except for the Planning Scale (87) that remained the same and still in the Low Average range. His Full Scale posttest score of 104 and Successive Scale score of 106 put him in the Average range and within what would have been predicted by his pre test scores. Once again his score of 122 on the Simultaneous Scale places him in the

Superior range (a score found only in 2.1% of the standardization sample, and significant at a .05 level). Erwin's score on the Attention Scale (96) was similar to his pretest scores. On the posttest, his score on the Attention Scale was the result of receiving a significantly higher mark (at a .05 level) on the Expressive Attention subtest (found in only 15% of the standardization sample (considering his scale score)). The Expressive Attention subtest measures selectivity and the ability to shift attention. Perhaps the increase in this subtest score is the result of increased ability to focus on the task at hand. Once again significant differences (at a .05 level) were found between various PASS scales of Planning (87) and Simultaneous Processing (122), Attention (96) and Simultaneous Processing (122), and Simultaneous (122) and Successive Processing (106).

His Low Average Planning scores will likely make it difficult for him to think ahead and grasp the "big picture." However, Erwin's Planning Scale score may not be representative of his true planning abilities, as all subtests of that scale are timed and Erwin mentioned on more than one occasion that he basically "shuts down" when he has to hurry through a task. He indicated that this was his main reason for not liking school, especially as he got older and he was expected to do more in less time. His second lowest score on the CAS was on Attention, where all three subtests are also timed. His Superior score on the Simultaneous Scale does indicate considerable potential for overall comprehension as well as in reading and mathematics, and may help offset some of his planning difficulties.

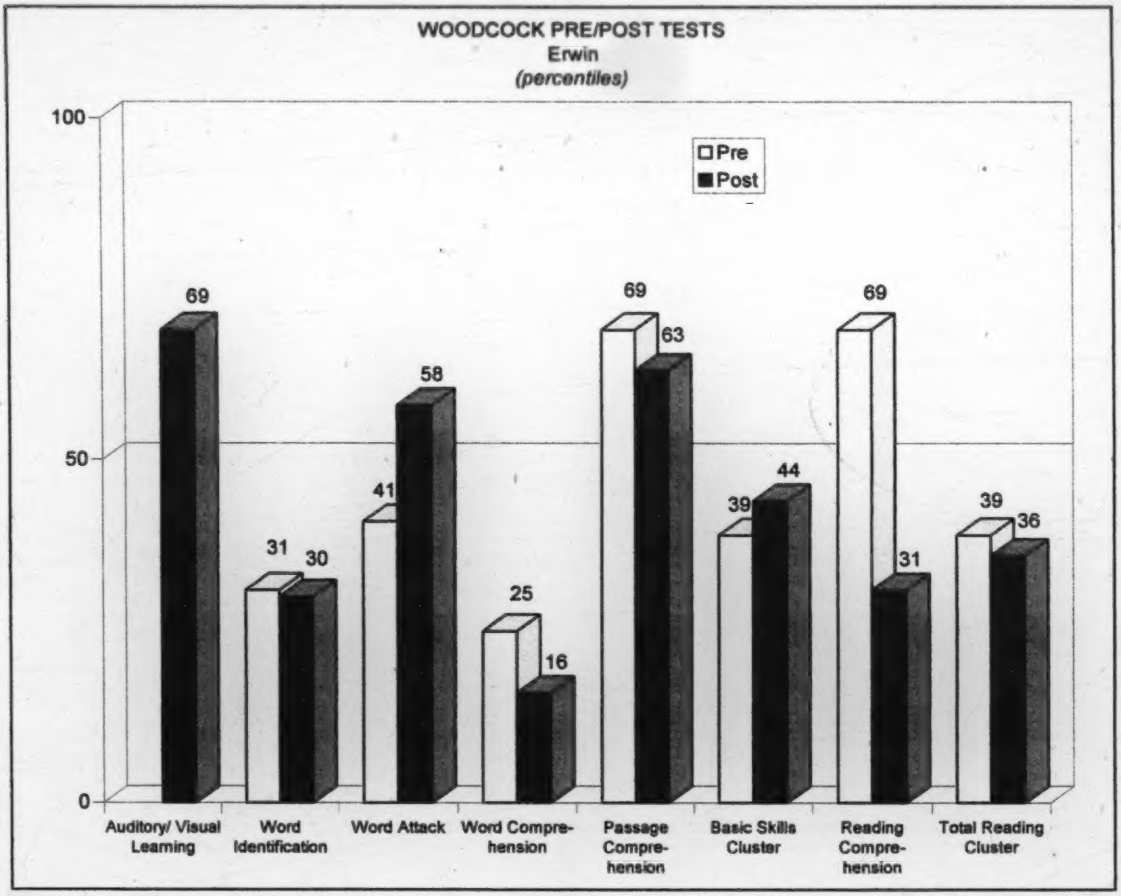
Overall, given Erwin's Average score on the CAS Full Scale as well as his Superior score on the Simultaneous Processing Scale, one would expect that he would be able to meet the demands of normal daily functioning as well general academic requirements, despite his low average score on Planning and Attention (which, as previously mentioned, may not be representative of true potential in this area).

Reading and Math

Erwin reported attending approximately seven schools, failing a grade, and having been in the IOP program. He reported never liking school before he came to EYOC (he was attending school, as well as working in the center), because he always felt rushed and never had time to finish his assignments to his satisfaction. He recalled that he could actually make himself sick so that he wouldn't have to go to school. He also indicated that he found "big groups disturbing." He was suspended on a couple of occasions, and was expelled once for punching the principal in the head. He stated that he had quite a few books when he was little, that his mom use to read to him, and that he could recognize some words from his storybooks before he started school. He recalled his mother being interested in his school performance, homework, and grades. When asked what he would do as a parent with his own children, he replied "I will teach my children the basic rules of the house, and respect for people and self." This shows a certain level of insight on Erwin's part as he felt there were basically no rules in his home until he was a teen, and that his dad had little respect for anyone. He believed that these factors had significantly contributed to his being involved in a life of crime.

Many of Erwin's pre test scores on the *Woodcock Test of Reading Mastery* as presented in Figure E-2 were below what would have been predicted given his CAS scores, and are indicative of ability/achievement discrepancies. His scores indicate that

Figure E-2. Histogram of Erwin's Woodcock Pre/Posttest Results

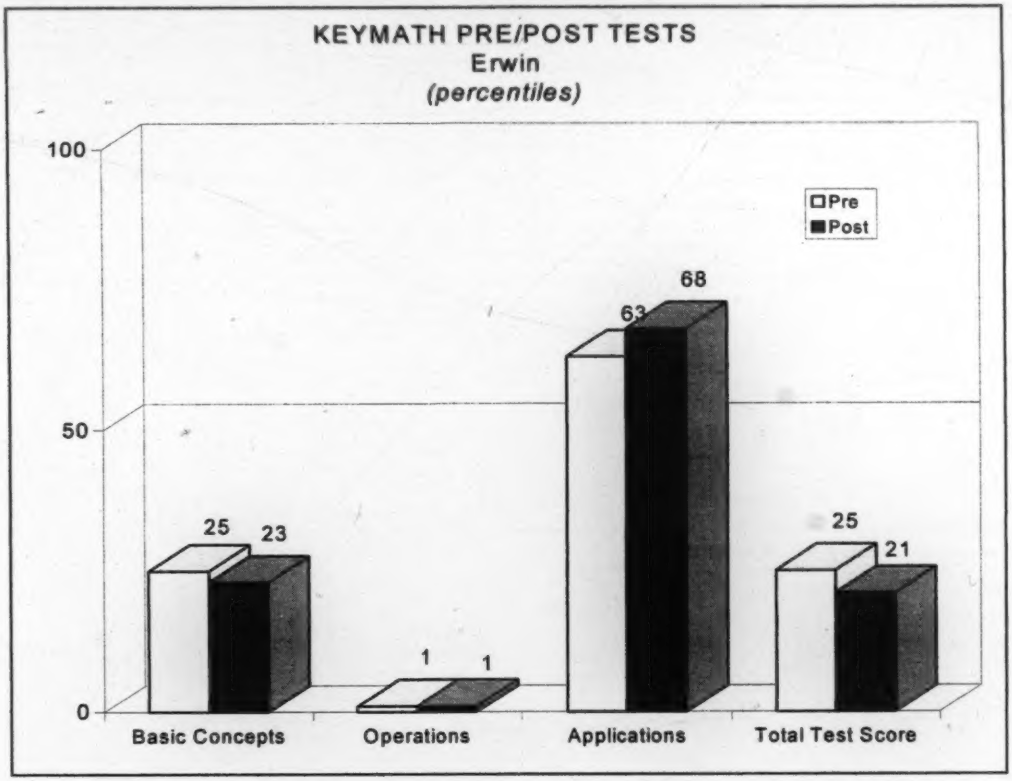


he is currently achieving at approximately a grade nine or ten level His scores on Word Identification and Word Comprehension remained consistently lower than would have been predicted by his scores on the CAS, and remain areas of concern. Given his score of 120 on the Simultaneous Processing Scale the following scores are significantly lower than predicted (at a .05 level), 106 on Passage Comprehension (found in only 12% of the standardization sample), 105 in Reading Comprehension (found in only 4% of the standardization sample), 92 in Letter/Word Identification (found in only 2% of the standardization sample), 95 in Basic Reading Skills (found in only 4% of the standardization sample), and 97 in Word Attack (found in only 7% of the standardization sample). However given his Planning score of 87, Erwin's scores of 106 on Passage Comprehension, and 105 on Reading Comprehension are significantly higher than predicted (at a .05 level). These results would seem to support the idea that Erwin's scores on the Planning Scale may not be representative of his actual planning abilities.

Erwin's posttest scores also show a pattern of relative strengths and weaknesses. He scored 125 (16.9 grade equivalent) on the Auditory/ Visual subtest. These results are consistent with his scores on Simultaneous and Successive Processing. Given his score of 122 on the Simultaneous Processing Scale, the following posttest scores are significantly lower than predicted (at a .05 level), 91 on Letter-Word Identification (found in only 1% of the standardization sample), 104 on Passage Comprehension (found in only 7% of the standardization sample), 94 on Reading Comprehension (found in only 2% of the standardization sample), and 97 on Basic Reading Skills (found in only 2% of the standardization sample). His Full Scale score of 104 and his Successive Processing score of 106 would have also predicted a higher score in Letter/Word Identification (91), and Reading Comprehension (94) (at a .05 level). Nonetheless, Erwin's posttest score of 102 on Word Attack, 104 on Passage Comprehension, and 97 on basic Reading Skills are significantly higher (at a .05 level) than would have been predicted given his Planning score of 87, and his pre test score on Word Attack. This significant increase on Work Attack is likely due to the PREP intervention that he received, and is an example of "far transfer" of learning. Erwin's Word Identification remained unchanged. Word Identification does not usually increase dramatically because it contains many irregular words that cannot be phonologically analyzed. For Erwin, perhaps his discrepant ability/achievement scores are the result of an impoverished background (relatively little adult interaction during his formative years, parents with drinking problems and a mother with psychiatric problems), as well as general learning challenges.

Erwin's scores on the *KeyMath*, presented in Figure E-3, once again display areas of relative strengths and weaknesses, and indicate that he is functioning at approximately a grade seven level. His scores in Applications indicate an area of cognitive strength, while his scores in Operations indicate an area of cognitive weakness. His Total Test score (Average range) belies his extraordinary difficulties with basic numeration and rational numbers, difficulties which are inconsistent with his above average abilities in simultaneous and successive processing. His pre test Total Test (90), Applications (105), and Basic Concepts (90) scores put him in the Average range. His score on the Operations (65) was in the Markedly Below Average range. There were statistically significant differences at a .01 level between pre test area scores on Basic Concepts (90)

Figure E-3. Histogram of Erwin's KeyMath Pre/Posttest Results



and Operations (65), and Applications (105) and Operations (65). Statistically significant differences at .05 level were noted between Basic Concepts (90) and Applications (105).

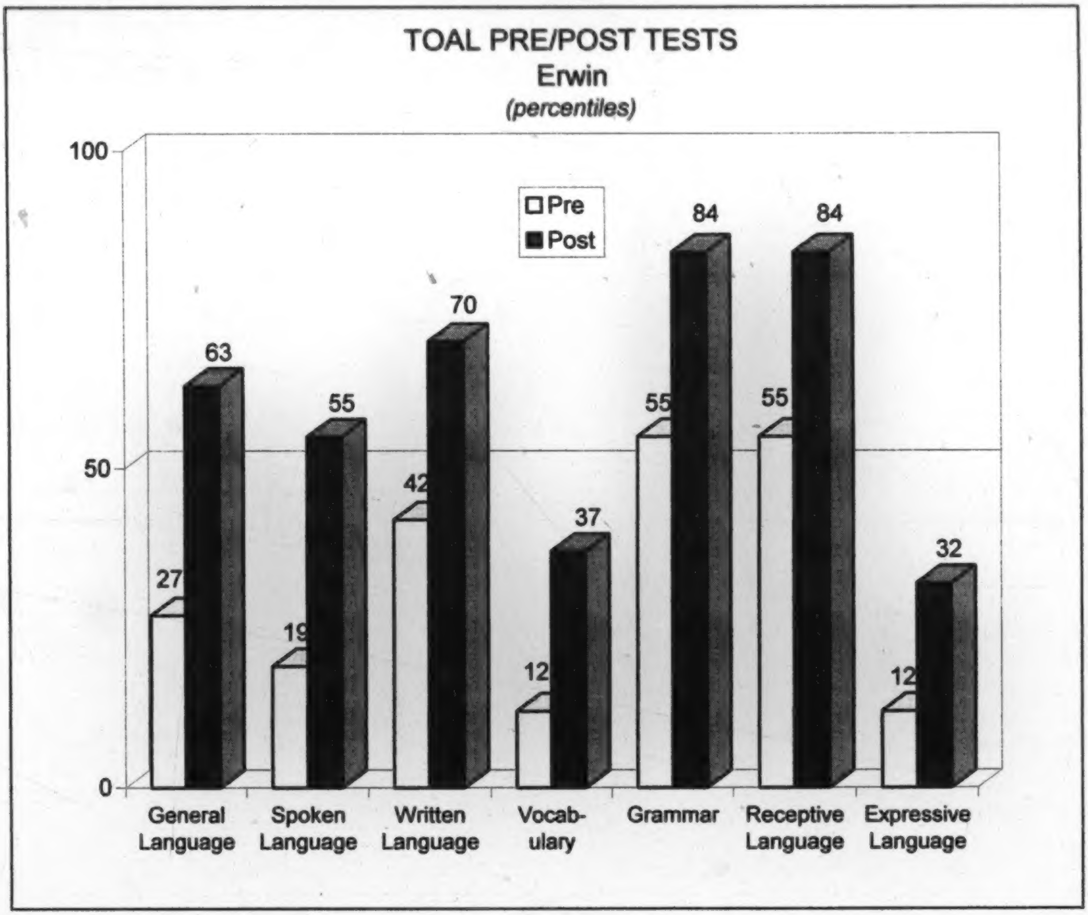
His posttest scores on Total Test (89), and Basic Concepts (89) were down from Average range to Below Average range. His score on Operations (65) remained unchanged, in the Markedly Below Average range (maximum effect given his current functional levels). His posttest score on Applications (107) was once again in the Average range. There were no statistically significant differences between any of Erwin's pre and posttest scores. However, statistically significant differences were noted among posttest area scores in Basic Concepts (90), and Operations (65), Basic Concepts (90) and Applications (105), and Operations (65) and Applications (105), all significant at a .01 level.

According to Connolly (1988), a statistically significant difference between the standard scores for two areas "signals an imbalance in the student's knowledge and skills and ability to apply them (Connolly, 1991, p. 26)." Erwin's scores on the KeyMath are consistent with his scores on the CAS, Woodcock, and TOAL, where it also seemed that there was an imbalance between his knowledge and skills and ability to apply them. His poor score on the Planning Scale would have predicted his difficulty with Operations. Also, his superior Simultaneous Processing score would have predicted his significantly higher score on the Application subtest than on the two other subtests.

Language

Erwin's pre and posttest scores on the *Test of Adolescent and Adult Language-3 (TOAL)* presented in Figure E-4, display areas of relative strengths and weaknesses. His

Figure E-4. Histogram of Erwin's TOAL Pre/Posttest Results



highest scores were in Receptive Language and Grammar, and his lowest marks were in Expressive Language and Grammar composite (102), and Receptive Language composite (102). His pre test scores were in the Below Average Range on the Spoken Language composite (87), Expressive Language composite (82), and Vocabulary composite (82) He scored within the Average Range on the Listening (97), and Reading subtest (106), and in the Below Average Range on the Writing subtest (88). Erwin's lowest pre test score was on the Speaking subtest (79) placing him in the Poor Range (a score that would be found in only 6.87% of the general population). A significant discrepancy (27 points) was observed between Erwin's Speaking subtest (79) and Reading subtest (106) pre test scores, indicating that his ability to comprehend graphic messages is far superior to his ability to express himself orally. His low scores in speech production are inconsistent with his high scores on successive processing on the CAS. It would seem that Erwin's ability to understand exceeds his ability to express himself, especially orally. Perhaps spending most of his developing years with little adult interaction somehow limited this ability such that he now finds it stressful when attempting to express himself orally.

Erwin's posttest scores on the TOAL-3 all show significant improvement with his pattern of strengths and weaknesses remaining essentially the same as on his pre test. He scored in the high Average Range on the General Language composite (105), Spoken Language (102), and Written Language (108). His scores on the Vocabulary (95), and Expressive Language (95) composites were in the Average Range. He scored in the Above Average Range on the Grammar (115), and Receptive Language (115) composites. Research indicates that echolalia is more likely to occur with children who experience poor receptive language skills (Cantell, Baker, & Rutter, 1978; Roberts, 1989), which is definitely not the case with Erwin, and would indicate that something else is causing his echolalia. Other research has shown that stress may be a contributing factor (Charlop, 1986). Looking back on my notes, stress would seem to be the most likely cause of Erwin's echolalia. His score on the Writing subtest (103) was in the Average Range, and his score on the Speaking subtest increased from Poor (79) to Below Average (88). He scored in the Above Average Range on the Listening (115), and Reading (112) subtests. On Erwin's posttest scores, a 20 point discrepancy was noted between the Grammar (115), and Receptive Language (115) composites, and the Vocabulary (95), Grammar (95) and Expressive Language (95) composites. A significant discrepancy of 27 points was noted between Erwin's Listening (115) and his Speaking (88) subtest scores[34]. Erwin's most significant increase from pre to posttesting was on Listening (capacity for understanding oral language) (97 to 115). His ability to understand spoken language as indicated by his scores on Listening (115), and Receptive Language (115) is an area of relative strength for Erwin, especially when compared to his ability to understand and efficiently use words to communicate both orally and in written form as indicated by his scores on Speaking (95), Expressive Language (95), and Vocabulary (95)[35]. Yet, Erwin was consistently the most articulate of the participants when it came to describing strategies, as well as just expressing his thoughts and ideas.

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[34] On the pre test, the 27 point discrepancy was between Speaking and Reading.

[35] Once again, Erwin's low scores in speech production are inconsistent with his high scores on successive processing on the CAS.

Perhaps when he is not feeling pressured by time or circumstances, he is able to make better use of his ability to express himself orally.

According to Hammill, Brown, Larsen, and Wiederholt, (1994), "Individuals who experience academic difficulties frequently show problems of production because they do not have the means to express what they know in the specific system required by the school. (They) may also need more time to encode what they want to express, in either spoken or written language or both. This time delay may indicate a severe language or learning disorder (Hammill, Brown, Larsen, and Wiederholt, 1994, p. 37)."

That Erwin may suffer from language or learning difficulties is a suggestion supported by his scores on the Woodcock, the TOAL and the CAS. Erwin indicated that he did spend much of his formative years alone, lonely and without a lot of adult interaction. Consequently, his use of language may have been seriously compromised during his formative years. Research indicates that neglect (i.e., no contact) "occurring alone is more problematic for language development than abuse and neglect together" (Hildyard & Wolf 2002, p. 682), because abusive parents may be less "emotionally detached" and "disinterested" that neglectful parents. If Erwin does indeed on occasion experience a "time delay" when it comes to encoding what he wants to express either orally or graphically, then this would seem to account for his inefficiency in solving planning tasks, and other timed activities. Given Erwin's pre and posttest scores it is obvious that his expressive language skills place him at a serious disadvantage when it comes to communication and school performance, a deficit which is no doubt compensated for by his superior comprehension ability (simultaneous processing).

Erwin's overall pre and posttest results would indicate that his cognitive development has been impeded as a result of an impoverished background and poor school attendance, as well general language/learning disabilities that have not been previously identified. These factors all seem to have significantly impacted his cognitive functioning, in the areas of planning and attention, as measured by CAS. The idea that Erwin is experiencing language/learning difficulties is supported by his scores on the various tests of abilities, as well as on the achievement test where his profile is one of significant discrepancies between highest and lowest scores within each test. Noteworthy also are Erwin's reduced scores on five of the seven original subtests on the Woodcock. His most significant reduction was 38 points on Reading Comprehension. These reductions cannot be explained when compared to his other posttest scores, especially when contrasted with his posttest results on the TOAL where he made significant gains. Consequently, it is likely that his low scores on the Woodcock are a reflection of what was happening for him at the time of testing with this test specifically. Although his post scores on the KeyMath did not improve, Erwin did show a capacity for learning after only eight weeks of intervention as evidenced by the gain made on several test scores on the Woodcock and TOAL. Except for the Reading and Word comprehension subtests of the Woodcock, Erwin's areas of strength and weaknesses remained the same after PREP, which would seem to indicate that in the past he has compensated for his weaknesses by using his strengths.

During the 10 weeks that I got to know Erwin, I was struck by how "consistent" he was. He was usually in a good mood, very focused on the task at hand, and seldom distracted by what was going on around him. He was obviously committed to doing his best. Rarely did he present as anything but serious, yet one could see the mischievous side of this young man on the rare occasion where he teased or displayed a sense of humor. He appeared to get along well with his peers, and never seemed to have a need for posturing when around them. He has been on level four (highest level) for most of this stay at EYOC, and remarked that " I have a reputation for keeping my nose clean, which is easier because I'm off the unit most of the day at work and at school. Right now I'm just interested in getting out of here with good habits, and getting on with my life."

Overall, Erwin can best be described as a young man with a good attitude and good intentions. Although his level of cognitive functioning is likely to have been impaired by his life circumstances, there is reason to suggest that he experienced fewer deficits than Yves given that his developmental years were less extreme and that he started using drugs at an older age, relatively speaking.

Erwin's Experience with Remediation

There is evidence to suggest that Erwin's cognitive functioning improved as a result PREP. He made significant gains in Successive Processing and Attention, as well as in all areas of language, as measured by the TOAL. In addition, PREP offered Erwin increased confidence in his ability to learn "school stuff," in an environment suited to his needs. That he showed significant changes, in such a short period of time, is quite remarkable in light of his lack of accomplishment during all his prior "learning" experiences, especially related to language skills.

Remediation for Erwin included a series of 20 sessions over a period of eight weeks. During all the sessions, Erwin was very focused on the task at hand, and appeared intent on putting forth his best effort. Even when asked to complete tasks that he really disliked, such as written assignments that he felt he was "no good at," he applied himself with the same degree of commitment and follow through. Erwin never once complained of being tired and was only somewhat distracted on a couple of occasions when he first got onto the work crew that was working away from the center[36]. If breakfast was late on his unit, the time remaining for his remedial sessions was somewhat limited. Once being on the "away" work crew got to be routine, Erwin became more relaxed and less anxious about them leaving without him[37].

Erwin completed all PREP tasks successfully, and indicated that he really enjoyed the PREP sessions, especially the Global tasks since he found them the most challenging. He did not find the Bridging tasks as enjoyable or challenging because he was already quite a good reader. Erwin was usually quite proficient at articulating the strategies he utilized. For instance, the Window Sequencing Global task requires that the participant reproduce a series of varied color and size chips in the same order in which they were presented, after they are displayed one at the time from left to right for approximately one second each. This is his strategy as he articulated it for that task: "I just, well as it goes, I go blue square, blue circle, blue square, blue circle, I just kind of repeat it to myself, so I would know. And then afterwards when it came to shapes and colors, I kinda, I don't know, I just kind of tried to remember the shapes like a square, blue square, yellow circle, you know. I tried repeating that in my head a few times." The Transportation Global task requires that the participant reproduce a series of transportation vehicle pictures in the order in which they are all presented for approximately five seconds initially, and then individually for two to three seconds, before they are turned over once again. The participant is given several extra cards to choose from, as well as the necessary ones to reproduce the series. This is how he related his strategy on that task, "I just uhh, I just went by, I don't know, I just tried to memorize it. I can't really explain, I'm just uhh really good with pictures and stuff, recognizing them, and I just put them in order, I'm putting them as like one big picture."

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[36] Being on the work crew that works away from the center is considered quite a privilege, reserved for the most reliable and trustworthy YOs.

[37] He was a good enough worker that they waited for him on the rare occasion when he was a few minutes late.

During PREP sessions, Erwin appeared to be quite observant of patterns, especially when dealing with various shapes such as required on the Shape Design Global task. On this task, the individual is given 10 seconds to study a design that must be reproduced utilizing a combination of six shapes (at the most complex level), differing in color, size, and contour. To prepare for the task the participant needs to take the required shapes from the shape bag as displayed on the required shape page provided[38]. He explained, “The strategy was like, I go with the arrangement that was in the book (required shape page provided). And usually there are some similarities you could just leave in place where they were and you just had to slide a couple to a different position and like it just made it all that much easier.” On the Tracking Global task, the individual is presented with a village map with houses and trees. Tracking cards illustrate a path from a starting point to either a numbered house or lettered tree. Erwin did the tracking very quickly on this task. He indicated that he looked for similarities or patterns. “Well I just kind of, you know, it took me a bit to get the gist of how it worked, it always goes from here, to there and what not but ummmm, yeah it was fairly easy I just kinda looked for patterns, like where all the turnoffs were. See, there’s two here so that means it’s this one because these two are cut off, so that leaves only this one.” He was the only one to use “chunking[39]” as a strategy. For instance, he used chunking to help him remember a series of eight words required in the Transportation Bridging task II, wherein a set of words must be memorized and recalled. “I started with the first three, and when I got those down, I memorized those and then went to the next three and then the last two were just easy.” It was pointed out to Erwin, approximately half way through the task, that the sets were arranged so that one of the paired words is placed in the first half of a set, and the second word of that pair occupies the corresponding position in the second half of the set. Once this pairing had been pointed out to him he said “So they’re all paired up, yeah. But I think that repeating them to myself in order works a lot better for me,

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[38] Erwin (as well as all the other young men except Yves) took the time to stack each type of chip separately (not a requirement of the task), but something that they chose to do and it served them very well, and allowed them to concentrate on displaying what

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they had memorized rather than being distracted by sorting the chips during each display.

[39] “Chunking” refers to the process of clustering data together into groups.

personally." For Erwin, "near transfer" during the PREP appeared to include increased ability to understand and articulate his use of strategies, from one task to another. He got to the point where he stated, "I'm starting to realize that this stuff is all different but still a little bit the same. I never realized before that I was using strategies when I did stuff."

It is likely that Erwin benefited from remediation as much as he did because the PREP approach appeared to be an ideal way for him to learn. He did not seem to feel rushed or pressured by time constraints in any way and consequently he was able to concentrate on what he was doing to obtain success. As well, Erwin indicated that he enjoyed learning in a one-on-one situation, and also enjoyed the individual attention and support. Erwin benefited from PREP, especially in the area of language where he was previously struggling. He appeared to have been able to capitalize on the strategies that he learned during his remedial work. It seemed that Erwin finally realized that there could be a method to learning. In short, he seemed to have taken the first steps in learning how to learn. Now learning was no longer just something that he did. Through PREP he learned to be more aware of not only what he was doing, but more importantly why he was doing what he was doing. On more than one occasion he commented, "Now why am I doing this? Why did I think this would work? Oh yea, now I remember!" He obviously developed some metacognitive skills in the process. Perhaps an unexpected benefit of learning how to learn, was learning how to think more clearly. When asked what he found the most helpful about PREP he replied "Learning about strategies, that was really cool. I like that I can use strategies to help me do things better, more efficiently. I guess I might have been using some strategies all along, but it sure helps knowing that that's what you're doing."

With the remaining 10 sessions, Erwin struggled less than the other young men with the language arts type exercises, and was able to successfully complete all of them in record time. On the "mind bender" puzzles, Erwin consistently did as well as the other young men. It was obvious that he enjoyed this portion of the session and looked forward to it. He, like the other young men, had some that appealed to him more than others. All indications are that Erwin really enjoyed his remedial sessions, and would gladly have continued attending until his release. He seemed to enjoy learning in a quiet environment, in a one-on-one situation where there were few if any time limits. He mentioned, in passing, that sometimes at night before he would fall asleep he would go over the day's puzzles and try to figure out more efficient ways of doing that puzzle during the next session[40]. It seemed that "strategizing" had become an enjoyable pastime for this young man!

A YO's risk of re-offending, as documented, is mitigated by several factors. The most influential of these include age of first incarceration, age of first arrest, academic achievement, and IQ. Given that Erwin's experiences include first being incarcerated at age 15, being arrested for the first time at age 12, currently achieving at approximately grade nine or ten level, and that his IQ score is in the average range, one would expect that he might re-offend within a short period of time after his release, and the potential impact of the remediation on recidivism must be analyzed within this content.

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[40] During the puzzle part of the sessions, each session started with the puzzle from the previous session. These young men really seemed to enjoy this, as it allowed them to experience instant success before moving on to something more challenging. This is a strategy that I picked up from working with PREP.

Support for the impact of the remedial input comes from a review of Erwin's justice file. *Erwin has not reoffended and it has been more than 18 months his release.* This is a much longer period than would have been expected, based on the amount of time he previously spent in the community between various terms of incarceration. There is every indication that Erwin benefited from PREP remediation, not just from his assessment scores and by what he indicated, but by his most recent behaviors. However, one must also consider that other factors might have been at play that made it more likely that Erwin would cease offending, such as "maturing out of the system" as many YOs do once they are around 18 years of age. Whatever the reason, Erwin seems to be in somewhat better control of his life, and this is considered quite remarkable under the circumstances.

Synopsis

There are likely many reason why Erwin became a YO, despite his average intellectual abilities. His current life would probably be quite different had he come from a family where both parents were less needy, and consequently better able to meet his needs. His struggle with language is likely a significant contributor to his current life difficulties. His life experiences seem to have greatly impacted his language abilities, and interactively his cognitive functioning, as well. His poor planning abilities might have made it difficult for him to think ahead and to anticipate consequences. Yet despite serious disadvantages, he managed to do quite well. Although he has some cognitive difficulties, he also has some real cognitive strength, and has become a young man with some insight, and a seemingly strong work ethic. He also appears to have a real desire to keep learning, and to make a successful life for himself. One can only hope that the help that he received from remediation with PREP and learning to strategize combined with a few weeks of personal attention and support will make an appreciable difference towards helping him achieve his goals. Whether or not he is able to put his past behind, and "get on with his life" remains to be seen, but he seems off to a good start!

Helmut

Helmut is a 17 year old Caucasian youth of smaller than average height and build. He presented as pleasant and well groomed, and initially as quiet. He indicated that he wanted to be in this study because he had "a lot of problems with concentrating and staying focused." He had completed other "courses" offered in EYOC, such as Anger Management. He was serving the remainder of a six month secure sentence for one count of Possession of a Controlled Substance, and one count of Failure to Comply with Probation. He was due to be released in February 2003, and had more than 18 months of probation to follow. He was first arrested and charged when he was 15 years old for Theft under $5000. He was subsequently arrested a total of 10 times, and convicted of another 12 charges between January 2000 and April 2002 for property related offences and several Failure to Comply charges.

It becomes obvious based on the description that Helmut provided in his interviews and other comments during his sessions, that he presents an example of childhood abuse, neglect, and poverty. Helmut's descriptions of his early development underscore the neglect and abuse that were so evident in his life. When asked what was going on for him during his crime spree, he stated "I just felt like having fun, before I was 18 I just wanted to get it out of my system. All this stuff, so I didn't have to be curious about when I was 18 and actually have to go to adult prison, plus you know when you're younger you just want to do stuff. I learned a lesson and I experienced the situation that I did and what it feels like and everything so I don't need to do it again"[41].

At the time of his last arrest, Helmut was living between the Youth Emergency Shelter, and the street. He was heavily into drugs prior to his arrest, and when he was obviously "high" he could not go back to the Shelter. Helmut indicated that his contact with his family was limited at that time. His parents separated in 1998 after his father was convicted of sexually inappropriate behavior with his stepdaughter, Helmut's half-sister. Helmut's Dad was subsequently sentenced to three years of incarceration in 1999. Helmut's mother was on probation in the past for assaulting her daughter during a conflict. Helmut spoke disparagingly of both his mother and sister: "Mom's insane and my sister's messed up." He indicated that he did not get along well with his mom, and indeed had not had any contact with her for more than two years. He stated that he thought his mother was difficult and often acted crazy, because she grew up in foster homes. Helmut did not have any full siblings. He reported that his older half-sister was an actress and a stripper and that he did not get along well with her. He indicated that his mother was currently engaged to a man who had 10 children from previous relationships.

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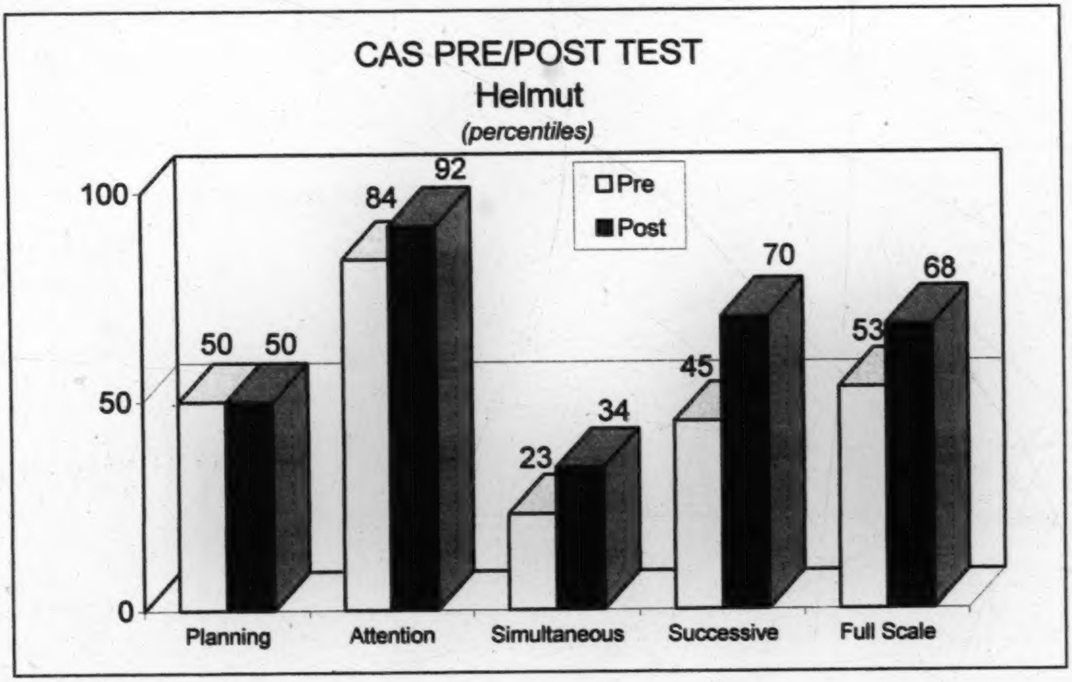
[41] This type of thinking is not uncommon among this population.

Helmut refused to elaborate on his childhood, claiming that he did not remember much about what happened back then. It is not surprising that he had little to say regarding his younger years given reports which indicate that Child Welfare had extensive involvement with Helmut's family over the years, for concerns of lack of supervision, inappropriate expectations of the children, physical and emotional abuse, and general neglect. Over the years Helmut has resided with various aunts, his grandparents, his parents (when they were together and also after they separated), as well as at the Youth Emergency Shelter, and on the streets. Eventually he ended up in a treatment facility for several months. In retrospect, Helmut commented that this was a good place for him, that staff were nice, and that his living situation was stable for the first time in a long time. He stated, "I got pretty used to that place - it takes a year on the streets to figure this out - that there's better ways to live." Upon release Helmut plans to live with his father.

Cognitive Functioning

Helmut's profile on the CAS (see Figure H-1). is uncharacteristic of most YOs' profiles, in that his planning, attention and successive scores are all higher than would have been predicted, and his simultaneous scores are lower than predicted. This is not readily explained at this time, given that his life experiences appear quite characteristic of most YOs, including a chaotic unstable early environment where there was ongoing abuse and neglect, as well as frequent changes of schools and failing grade one because he could not read or write, being in special education until he was in grade six, and then always being in IOP after that. Helmut's highest CAS score was on Attention, and was also significantly higher than his other scale scores. Perhaps, like Yves, this ability to

Figure H-1. Histogram of Helmut's CAS Pre/Posttest Results



attend is a skill that Helmut developed as a means of avoiding abuse by becoming super attentive to environmental cues.

Helmut's scores on the CAS were not entirely comparable with the scores he obtained on his academic testing, likely because of his difficulties with reading and writing. Nonetheless, the CAS was very helpful in identifying areas of strength and weaknesses for Helmut. Helmut's pre and posttest scores on the *Cognitive Assessment System (CAS),* would indicate that his intellectual functioning is within the Average Range.

He demonstrated a pattern of strengths and weaknesses on his pretest PASS Scale scores. His pre and posttest planning scores indicate a maximum effect given his current functional levels. An area of strength for Helmut is his ability to pay attention. His greatest gain after remediation was in successive processing. His pre test Full Scale score was 101. He received his lowest pretest score (89) on the Simultaneous Processing Scale. This low a score (given his Full Scale score) is deemed a significant weakness at a .05 level. An area of significant strength (at a .05 level) on the pretest for Helmut, was the Attention Scale where he received a score of 115. Helmut's score on the Planning Scale (100), and the Successive Scale (98) were both within the Average Range. No significant discrepancies were noted in any subtest scores within each scale. Significant differences (at a .05 level) were found between the scales of Attention (115), and Planning (100), Simultaneous Processing (89), and Successive Processing (98). An obviously strength for Helmut was his ability to attend, an important skill for learning and problem solving.

It is likely that he has used his superior ability to attend to help him compensate somewhat for his difficulties in simultaneous processing.

General Health Concerns

Helmut remembered being physically healthy as a child. He had been in the hospital overnight for relatively minor incidences. He had never been knocked unconscious. He had several tattoos; some he had done himself and some that were done when he was passed out. He denied any history of sexual abuse, but indicated that he was physically abused by his mother, until he was old enough to start hitting back. He stated that he had never thought about suicide. He reported getting along well with his peers, most of who were antisocial, and he denied any gang involvement. He recalled spending most of his time alone as a child, watching TV and fixing and building bikes. Helmut reported having had a few short-term jobs, but usually quit because he felt "ripped off." Reports indicated however that he was asked to leave on more than one occasion, because he was a "know it all"[42], and had difficulty getting along with other workers. He was on the work crew at EYOC, and was considered an average worker. Although this was not a paying job and it means that he had to get up earlier than the other young men, he did it because it helped to pass the time away and he considered it good training for when he got out. He joined Cadets for the same reason.

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[42] It is interesting to note that Helmut stated quite emphatically that he disliked "people who think they know everything."

Health and Substance Abuse

Helmut indicated that he was approximately 15 years old when he started using drugs, and about 16 or so when he started using alcohol. He stated that he had smoked pot, had tried crack a few times, and mushrooms. He had also been involved in a considerable amount of drug trafficking. He had attended AADAC for drug and alcohol treatment. When he was younger, he was seen by a child psychiatrist and was on Ritalin temporarily.

Integrating Health and Cognitive Factors

It would seem that Helmut's neurological development was not as affected as Yves', for instance, perhaps because he started using drugs at a much later age, relatively speaking. As well, Helmut had ongoing contact with his family, albeit including a great deal of abuse and neglect. However, over the years, I have been repeatedly told by a variety of these young people that being abused and neglected by parents is seen as much less hurtful to them than being abused by strangers (foster parents and other caregivers). Perhaps this is due to the fact that biological parents who are abusive and neglectful somehow still provide more love and affection to their children and are less emotionally detached and disinterested than foster parents who are abusive and neglectful. That abuse and neglect of children does occur while they are in foster care has been documented for years, as has been the decreasing number of suitable foster homes (American Academy of Pediatrics, 2000; Benedict, Zuravin, Somerfield, & Brandt, 1996; Carbino, 1992).

Sensory/Perceptual Challenges

Helmut did not display overall sensory/perceptual processing challenges. Although Simultaneous and Successive Processing involve both visual and auditory processing, simultaneous processing primarily involves intake and processing of visual stimuli – working with spatial information, while successive processing primarily involves auditory processing – working with sounds in a specific order. Challenges in simultaneous or successive processing could therefore be interpreted as challenges in visual and/or auditory processing. Helmut's scores on Simultaneous and Successive processing would indicate that he is experiencing relative visual challenges. Helmut's pretest score on Simultaneous Processing was at the 23rd percentile, while his score on Successive Processing was at the 45th percentile. However, after remediation with PREP he scored at the 34th percentile on Simultaneous Processing, but only at the 70th percentile on Successive Processing. The posttest scores indicate that although Helmut was able to make significant gains in working with spatial information (visual processing), he made his most significant gains in working with sounds in a spatial order (auditory processing).

Response to PREP Remediation

After only four and a half weeks of intervention Helmut managed to increase all his scores on the CAS, except for Planning (100) which remained the same, and still in the Average Range (maximum effect given his current functional levels). His Full Scale posttest score of 107 placed him in the Average Range as well, and within what would have been predicted by his pre test scores. His score of 121 on the Attention Scale placed him in the Superior Range (found in only 7.8% of the standardization sample), and was deemed a significant strength (at a .05 level). Helmut's score on the Simultaneous Scale (94) was similar to his pretest scores, and still remained an area of significant weakness (at a .05 level). Notable is the increase on Helmut's score on Successive Processing. His posttest score on the Successive Scale (108) placed him in the Average Range, and above what would have been predicted by his pre test score. There was little discrepancy within the posttest subtest scores. Once again, significant differences (at a .05 level) were found between the PASS scales of Attention (121) and Planning (100), Attention (121) and Simultaneous (94), Attention (121) and Successive (108).

All of Helmut's posttest scores on the CAS except Planning, increased after remediation with PREP. This is quite remarkable given his short time in remediation (four and a half weeks), and would seem to demonstrate a potential for learning when provided with favorable circumstances and appropriate remediation. His score on Simultaneous Processing (94) would be indicative of some difficulty in comprehension, as well as in reading and mathematics. However, given his Average score on the CAS Full Scale and his Superior score on the Attention Scale he should be able to meet the demands of normal daily functioning, but will likely struggle with secondary academic requirements, due his relative weakness on Simultaneous Processing.

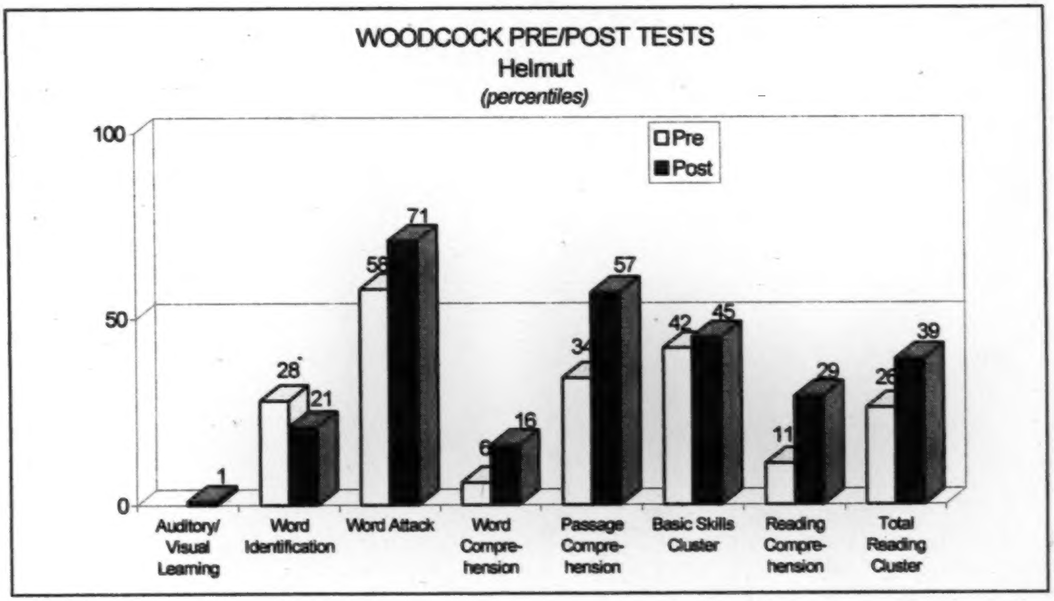
Reading and Math

Helmut's school history displayed factors of underachievement.

Helmut reported attending five or six schools altogether, failing grade one because he could not read or write, being in special education until he was in grade six, and then always being in IOP after that. He reported that going to school was OK. He was attending school in EYOC. He remembered getting along well with most teachers. He was suspended on three occasions and was expelled once for destruction of school property. He stated that he did not have any books when he was little, that his parents never read to him, and that he could not read before he started school. He recalled his mother being interested in his school performance, homework and grades, especially when his grades were bad. Helmut remarked that his parents used to blame the teachers when his marks were poor. When asked what he would do as a parent with his own children, he replied "I know lots of things to help my son stay out of trouble," a statement that once again revealed his penchant for little insight and an over-inflated sense of how much he really knows.

Many of Helmut's pre and posttest scores on the *Woodcock Test of Reading Mastery,* as presented in Figure H-2, were below what would have been predicted given his CAS scores, and indicate that he is currently reading at a grade seven to eight level. His overall scores would seem to indicate that his reading comprehension is quite limited, despite his superior ability to attend as measured by the CAS. Given Helmut's score of 115 on the Attention scale the following scores are significantly lower than predicted (at a .05 level): 84 in Reading Comprehension (found in only 1% of the standardization sample), 90 in Letter/Word Identification (found in only 4% of the standardization sample), 94 in Passage Comprehension (found in only 6% of the standardization sample), and 97 in Basic Reading Skills (found in only 12% of the standardization sample). However, Helmut's score of 103 on Word Attack was significantly higher than predicted

Figure H-2. Histogram of Helmut's Woodcock Pre/Posttest Results

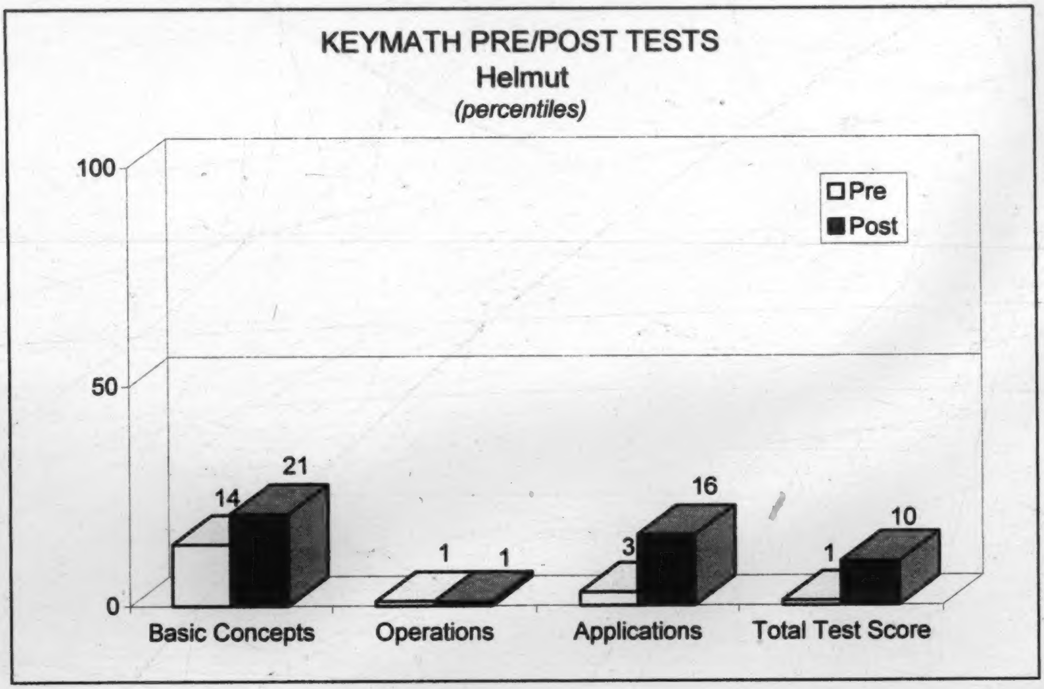


(at a .05 level), given his simultaneous score of 89, and represent an area of strength for him.

Helmut's posttest scores also show a pattern of relative strengths and weaknesses. He scored 72 (Kindergarten equivalent) on the Auditory/Visual subtest. These results appear consistent with his scores on Simultaneous processing and indicate an area of significant weakness for him. This would seem to suggest that Helmut does not learn new material easily, despite his superior ability to attend. His score of 121 on the Attention Scale indicates that the following scores are significantly lower than predicted (at a .05 level): 87 on Letter/Word Identification, 102 on Passage Comprehension (found in only 7% of the standardization sample), 93 on Reading Comprehension (found in only 2% of the standardization sample), and 98 on Basic Reading Skills (found in only 7% of the standardization sample). Helmut's posttest score of 108 on Word Attack is significantly higher (at a .05 level) than would have been predicted given his Simultaneous Processing score of 94. The significant increase on Work Attack is an example of "far transfer" of learning, which is likely due to the PREP intervention that he received. Word Identification on the other hand does not usually increase as dramatically as this subtest contains many irregular words that cannot be phonologically analyzed. His Full Scale Score of 107, and his Successive Processing score of 108 would have predicted a higher score (at a .05 level) on Letter/Word Identification (87), and Reading Comprehension (93). Overall the areas of greatest improvement for Helmut were in comprehension which is consistent with the gains he made in Simultaneous and Successive Processing.

Helmut's scores on the *KeyMath*, presented in Figure H-3, once again display areas of relative strengths and weaknesses, and indicate that he is currently achieving at approximately a grade five level. All of his scores are within the markedly below average and below average range. His pre test Total Test (65), Operations (65), and Applications (65) scores are in the Markedly Below Average range. His pre test score on Basic Concepts (84) was in the Below Average range. There were statistically significant differences between pre test area scores in Basic Concepts (84), Operations (65), significant at a .01 level. His posttest scores on Total Test (88), Basic Concepts (88), and Applications (85) put him in the Below Average range. Helmut's increase on the Application subtest appears consistent with his gains in simultaneous processing. His posttest score on the Operations subtest (65) remained unchanged in the Markedly Below Average range. There were no significant differences between Helmut's pre and posttest scores in Applications (71 to 85), and Total Test (65 to 81). Statistically significant differences (at a .01 level) were noted between posttest area scores between Basic Concepts (90) and Operations (65), Basic Concepts (88) and Operations (65), and Operations (65) and Applications (85). According to Connolly (1988), "A statistically significant difference between two standard scores "signals an imbalance in the student's knowledge and skills, and his ability to apply them (Connolly, 1991, p. 26)." Helmut's scores on the KeyMath are consistent with his scores on the CAS, Woodcock, and TOAL, where it also seemed that there was an imbalance between his knowledge and skills and ability to apply them. His superior Attention score on the CAS would indicate a considerable strength for him. It would seem to signify a real potential for doing well

FigureH-3. Histogram of Helmut's KeyMath Pre/Posttest Results



in math, should he be provided with a suitable opportunity, as ability to selectively attend is a common prerequisite for learning, memory, and problem solving (Das, Naglieri, & Kirby, 1994). This area of strength should help him to compensate somewhat for his areas of significant weaknesses.

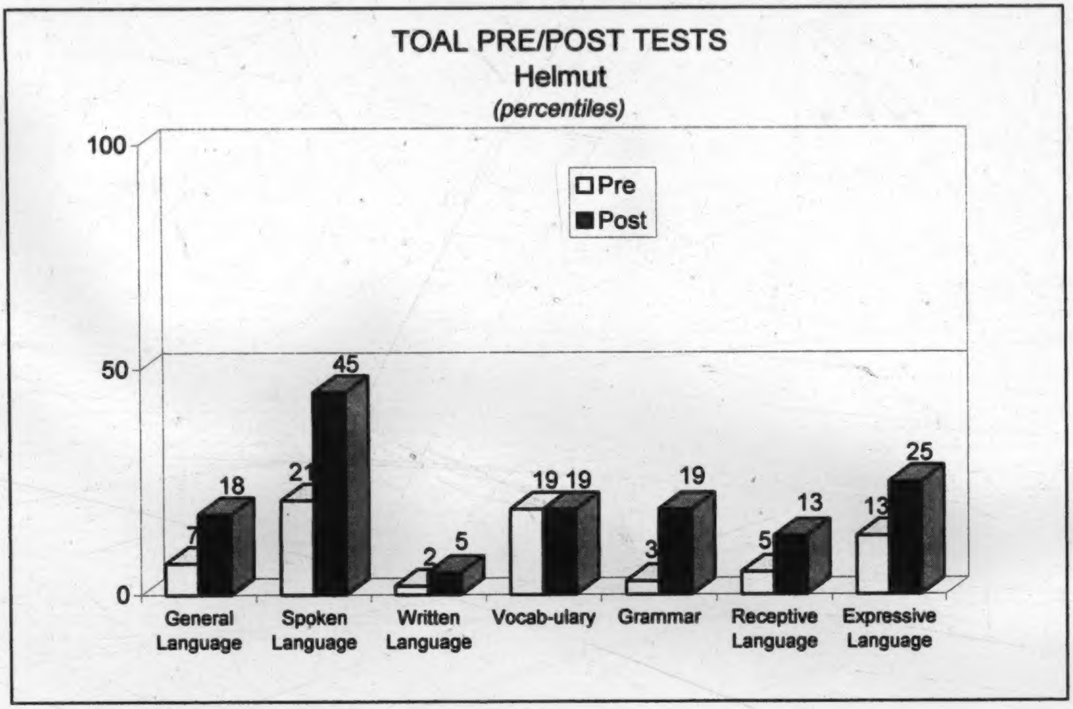
Language

Examining the assumption related to language function, Helmut's pre and posttest scores on the *Test of Adolescent and Adult Language-3 (TOAL)*, presented in Figure H-4, display areas of relative strength and weaknesses. Indications are that his spoken language abilities are far superior to his written language abilities, and that his expressive language abilities are considerably better than his receptive language abilities.

Helmut's General Language (78), Written Language (70), Grammar (72), and Receptive Language (75) composite pre test scores were all in the Poor Range. His pre test scores were in the Below Average Range on the Spoken Language (88), Expressive Language (83), Listening (85), and the Vocabulary (87) composites. His pre test subtest scores were within the Poor range in Reading (70) and Writing (76). Helmut's highest pre test subtest score was in Speaking (94), placing him in the Average Range. No significant discrepancy (more than 20 points) was observed between Helmut's pre test composite scores.

Helmut's posttest scores on the TOAL-3 all show some improvement, except for his score on Vocabulary (87) that remained the same (maximum effect [commensurate with his current functional levels]). His pattern of strengths and weaknesses remained essentially the same as on his pre test. He scored in the Below Average Range on the

Figure H-4. Histogram of Helmut's TOAL Pre/Posttest Results



General Language (86), Grammar (87), Vocabulary (87), and Receptive Language (83) composites. His score on the Written Language composite (75) was in the Poor Range. He scored in the Average range on the Spoken Language (98) and Expressive Language (90) composites. His score on the Speaking subtest (103) was in the Average range, and his scores on the Reading subtest (79) and Writing subtest (79) were in the Poor range. On posttest scores a significant discrepancy of 23 points was noted between Helmut's Spoken Language composite (98) and his Written Language composite (75). As well, a significant discrepancy of 24 points or more was noted between Helmut's subtests in Reading (76), Writing (79), and Speaking (103). Helmut's most significant gain from pre to posttesting was on the Grammar composite (72 to 87). His ability to express himself orally (Speaking (103), and Spoken Language (98)) is an area of relative strength for Helmut, compared to his capacity for reading and writing (Reading (76), Writing (79), and Written Language (75). Helmut's increase in oral expression is consistent with his increased scores in successive processing.

According to Hammill, Brown, Larsen, and Wiederholt, (1994), "Individuals who come from environments where written Standard English is unfamiliar or poorly developed may never have learned - through reading or being read to - the subtle but typical vocabulary and syntax that differentiates oral and written language[43] (Hammill,

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[43] Helmut indicated that he did spend much of his formative years alone, that he had no books as a child, that no one read to him and that he failed grade one because of his difficulties with reading and writing.

Brown, Larsen, &Wiederholt, 1994, p. 38)." Given Helmut's pre and posttest scores it is obvious that his reading and writing place him at a serious disadvantage when it comes to school performance. However, this deficit is likely somewhat compensated for by his superior ability for allocation of attentional resources and effort (Attention as measured by the CAS). Research has shown that reading-disabled children experience significant problems with attention (Das, Naglieri, & Kirby, 1994). Yet this is obviously not the reason for Helmut's depressed scores in reading. It is more likely that Helmut's difficulties with reading and writing are the results of experiential factors such as an impoverished background and poor school attendance, rather than of learning disabilities per se (Samuelsson, Herkner, & Lundberg, 2003).

Helmut's overall pre and posttest results indicate that his difficulties are likely the result of past life experiences, given the gains that he was able to make in such a short period of remediation. His scores on the CAS would seem to indicate that these factors have had a more deleterious impact on his language skills than on his cognitive functioning, per se. His scores on the Woodcock and TOAL, as compared to the CAS, indicate a significant discrepancy between ability and achievement, which may well be the result of his language difficulties. These difficulties probably stem from his lack of exposure to print prior to starting school, and consequent developmental delays and/or absences of certain necessary skills upon which subsequent tasks build. Despite these difficulties, Helmut did show an impressive capacity for learning after only four weeks of remediation, as evidenced by the increase on the vast majority of his posttest scores.

Helmut managed to make gains on several test scores on the CAS, Woodcock, and TOAL. His post scores on the KeyMath improved, although his planning score did not change (pre, post). He showed significant improvement on Simultaneous and Successive processing, as well as on word, passage and reading comprehension, and in most language areas of the TOAL. The gain in language skills is quite remarkable given that PREP is not specifically designed for this.

During the few weeks that I got to know Helmut, I was amazed at his lack of insight, as well as at his inability to take any responsibility for his actions. Another example of his lack of insight for instance is thinking that it was "cool" to argue and never back down, and to always have something to say on any given topic[44]. Yet, he did not seem to understand that this alienated him from many of his peers as well as most adults. Helmut figured that he got along well with everyone, when reports from the center indicated just the opposite. Reports also indicated that Helmut refused to take responsibility for his actions even when "caught in the act." Regardless of who else was involved or what anyone else had to say, Helmut always seemed to have his own version of events, that ranged from minimally to vastly different than anyone else had to report.

To his credit, Helmut was usually in a good mood, very energetic, focused on the task at hand, and seldom distracted by what was going on around him. He was quick and deliberate when doing any tasks, and seemed almost rushed. He never appeared to hesitate or take time to deliberate. When asked about doing everything so quickly, he replied, " Well, either I know it or I don't, so what's to think about?" He enjoyed arguing and giving his unsolicited opinion as to how he would have done things differently if this were his project. It was apparent from watching him with his peers that he was not a "favorite[45]." His need for "posturing" around his peers was also very obvious. Despite his unpopularity, he had been on level four (highest level) for most of this stay at EYOC. This is not unusual for Helmut, as he is known to do well in structured settings.

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[44] I experienced Helmut's need to argue about topics that he had little knowledge of, as well as his need to believe he was right regardless of the facts, on many occasions.

However, there was another side to this young man that I was privy to. Helmut was released from EYOC just prior to posttesting, pending an appeal of his sentence. When I contacted him on the "outs" he indicated that he would gladly come and do a day's worth of testing so long as it was on his one day off. Much to my surprise he showed up as he had indicated he would, and spent the day at my office undergoing testing. He seemed genuinely pleased that he could help. We went for lunch together, and I could not have asked for a more pleasant or considerate companion. He was also gracious about sitting in the waiting room for approximately half an hour while waiting for the next stage of testing to commence. Helmut's generosity and graciousness were likely the result of enjoying the attention of an adult who was interested in his life, his thoughts and his future plans. Someone who is genuinely interested can be a great motivator. As well, I believe that Helmut felt a certain sense of responsibility to finish the study and sincerely wanted to do his part to help me with my "project," perhaps as payment for perceived kindness on my part. This would seem to indicate a sense of responsibility on his part, which should not be confused with his inability to take responsibility for his actions. However, in his defense, it seems that not taking responsibility is something that was modeled for him at an early age, when his parents would blame Helmut's teachers for his poor grades!

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[45] Helmut was described, by a peer on his unit, as not being liked by other kids because he is loud and obnoxious, and lied to make himself look good.

Helmut's Experience with Remediation

The PREP remedial program meets all of these basic requirements and appeared to be a viable option in the remediation of academic difficulties with Helmut. There is evidence to suggest that Helmut's cognitive functioning improved as a result PREP. He made significant gains in Successive Processing, as well as some gains in Simultaneous Processing and Attention. Helmut seems to have responded in a very positive manner to PREP (from the learning of strategies, and one-on-one attention and support) and to have been able to capitalize on what he learned during his remedial work. That he showed any change at all, in such a short period of time, is quite remarkable especially in light of what he had accomplished during his prior "learning" experiences, and his "know it all attitude."

Remediation for Helmut included a series of 13[46] sessions over a period of four and a half weeks, with four sessions during the first week, three sessions each for the following weeks, and one and a half weeks of twice weekly sessions. He was able to complete the entire PREP program in 10 sessions. The three remaining sessions were spent on language arts type activities, combined with various "mind bender" puzzles.

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[46] Helmut was released after only four and a half weeks of intervention, due to his successful appeal of his sentence. He had indicated that he had an appeal pending when he joined the study, but didn't think he would be successful.

During all the sessions Helmut was very focused on the task at hand, and appeared intent on putting forth his best effort. During remediation Helmut never once complained of being tired and was never shy about offering "feedback" on what was wrong with a particular task, and/or how to improve it. Helmut completed all PREP tasks successfully and indicated that he really enjoyed the PREP sessions, especially the Global Tasks that he found the most challenging. Despite the fact that he experienced some problem reading, he was able to complete all the Bridging tasks without difficulty. Although Helmut usually seemed to know what strategy he was using, it was apparent that this was perhaps not the most efficient strategy for a given task. However on several occasions he made it clear that he was not interested in trying different strategies, because he was convinced that he already possessed the "best" strategy. Most of his strategies were quite straight forward and he seldom elaborated much on any details. When asked about his strategy on the Connecting Letters Bridging task, where a participant is presented with a sequence of letters on lines that run across the page and together the sequence of letters on each line form a word, Helmut replied "Sounded it out." Helmut was overconfident at times and quickly became frustrated when it was pointed out to him that some of his answers were incorrect. Yet, he always wanted "another chance" and was more than willing to try another similar item within the same task. Usually, (maybe just out of genuine determination or because of a better understanding of the task and/or practice), he was able to quite successfully complete the next task (an excellent example of “near” transfer). The task that he obviously enjoyed the most was the Transportation Global task. It requires that the participant reproduce a series of transportation vehicle pictures in order in which they are all presented for approximately five seconds initially, and then individually for two to three seconds before they are turned over once again. It was on this task that he provided his most “elaborate” answer. He obviously had an eye for detail when it came to various transportation vehicles. For example, “Well, one’s a backhoe, one just a normal tractor, and one’s a bobcat. This blue one is an older vehicle, and this blue one is a newer vehicle. With the planes I just remembered that one’s a bush plane, and the other two were just small prop planes with different marking.” On the Tracking Global task the individual is presented with a village map with houses and trees. Tracking cards illustrate a path from a starting point to either a numbered house or lettered tree. Helmut did the tracking very quickly, but only after he got past articulating his frustration with the fact that the map and the cards were not “drawn to the same scale.” On the Shapes and Objects Global task the individual is required to match a picture of an object to a shape using picture cards. Helmut indicated that any difficulty he experienced with this task was due to the fact that the picture cards and the shape of the object “didn’t fit as well as they ought to.” Despite his frustration at times, it was apparent that he quite enjoyed participating in the PREP sessions and was always eager and energetic and wanting to know “what’s next?”

It is likely that Helmut benefited from remediation as much as he did because the PREP approach appeared to be an ideal way for him to learn, as he was not focused on content and consequently he was able to concentrate on what he was doing to obtain success. He obviously enjoyed the sessions, and the attention, despite his frequent comments on how things should be done or could be improved. PREP is set up in such a way that Helmut experienced ongoing success (even though he was occasionally frustrated), and immediate positive feedback, and these appeared to be significant factors in his success. When asked what he found the most helpful about PREP he said, "Nothing really, I knew all that stuff before". I then asked him if there was anything he liked or disliked, and he replied "Most of the stuff was fun, but some of the stuff was hurtin, because it wasn't to scale and stuff."

With the remaining three sessions Helmut struggled minimally with the language arts type exercises, and was able to successfully complete all of them. It was obvious that he enjoyed the "mind bender" puzzles segment of the session, and looked forward to it. Helmut consistently did as well as the other young men. He, like the other young men, had some puzzles that appealed to him more than others. Unlike the other young men, he often offered an opinion on the choice of puzzles, and what was "obviously" wrong with some of them. All indications are that Helmut really enjoyed his remedial sessions, and would gladly have continued attending had he not been released.

A YO's risk of re-offending, as documented, is mitigated by several factors. As indicated in the previous review, the most influential of these include age of first incarceration, age of first arrest, academic achievement, and IQ. Given that Helmut's experiences include first being arrested incarcerated at age 15 (not a usual occurrence as YOs are typically given warnings and probation, prior to being sent to jail), that he is currently achieving at approximately grade seven or eight level, and that his IQ score is in the average range, one might expect that he might re-offend within a short period of time after his release. The potential impact of the remediation on recidivism must be analyzed within this content, especially when one also considers the number of convictions that he has incurred since his first arrest.

Support for the assumption that Helmut benefited from PREP comes from a review of Helmut's justice file. *Helmut did not reoffend for approximately19 months after his release.* This is a much longer period than would have been predicted, based on the amount of time he previously spent in the community between various terms of incarceration (longest period was four months). In November 2003, Helmut appeared in court on several charges, including Theft <$5000, Failure to Appear, Failure to Comply, Stolen Property <$1000 x2, Robbery x2, and Assault with a Weapon. He is currently out on bail, while awaiting trial. Bail was granted as Helmut was employed at the time of his latest arrests.

His latest "crime spree" however, does cast doubt on just how much Helmut was truly able to benefit from any of his prior positive experiences. It would appear that Helmut has not been able to mature out of the system, as he had expected he would, and as other YOs, such as Erwin appear to have been able to accomplish.

Synopsis

It is not difficult to speculate why Helmut became a young offender, based on his life experiences. His developing years can be described as chaotic, at best. He suffered from ongoing neglect and abuse and lived with his parents and/or mother, as well as various relatives. He, like Yves had no direct experience with print as a preschooler.

However, Helmut attended approximately half as many schools as Yves, and started doing drugs when he was considerably older, relatively speaking. As well, it seemed that Helmut looked at being a young offender as an educational "experience," and one that he was not sorry to have lived. Hopefully for Helmut's sake, in time, his new learning and/or skills acquired as a result of PREP, will eventually enable him to display more of his strengths, and this will help him to compensate for some of his difficulties in getting on with people. One can only hope that becoming an adult offender will have a "sobering/maturing impact" on Helmut.

Darius

Darius is a 16 year old youth of Metis background. He was smaller than average in stature. He presented as amiable, well groomed, and as somewhat younger than his stated age. The one thing that was soon apparent about Darius was his "vitality." He was like a ball of energy, bouncing off the walls and the ceilings. He indicated that he wanted to be in this study because it might help him with his thinking and make it easier for him to learn, as well as to get away from the "humdrum" of everyday life in EY. He had not completed any other "courses" offered in EYOC. However, he indicated that he was presently attending family counseling with his mother, and that his mother's fiancé was suppose to be joining them but has not done so to date. He was serving the remainder of a 638 day secure sentence for Failure to Stop a Motor Vehicle (when ordered by police), Trying to Evade Capture, Antingerous Operation of a Motor Vehicle (high speed chase), Operating a Motor Vehicle While Disqualified (had previously lost his right to drive until he's 18), Possession of Stolen Property >$1 000, three counts of Failure to Comply with

Probation, and Mischief. He was due to be released in October 2003, and had one year of probation to follow. While incarcerated this last time, he had an extra 30 days added to his sentence for throwing chairs, and instigating a riot. He was first arrested when he was 11 years old but was not charged at that time. Although he was subsequently involved in a considerable amount of antisocial behavior after his first arrest, he was not re-arrested until he was 14, at which time he was charged, convicted and given a three month custody sentence, as well as one year of probation to follow. He had been in EYOC 10 times prior to this period of incarceration, and had four (unlawfully at large) UAL's on his record.

It becomes obvious, based on the description that Darius provided in his interviews and other comments during his sessions, that he presents a classic example of childhood abuse, neglect, and poverty. The fact that his early developmental context contributed to behaviour problems can be assumed for Darius based on the fact that he already has an extensive history as a young offender .

Darius' descriptions of his early development underscore the neglect and abuse that were so evident in his life. When asked what was going on for him during his last crime stint he indicated that he was "high" and had been for some time. He was in possession of a large quantity of illegal drugs, had a stolen car, was driving while suspended and high, and figured he'd be "going down hard" so he tried getting away. After a 25-minute chase when the police finally stopped him he locked the doors, gave them the "finger" and refused to come out. He dared the police to shoot him and they eventually had to break the window on the driver's side to extricate him. When all of this was over the police had charged him with more than 20 offences. Through plea bargaining his lawyer was able to get over half the charges dropped including being in possession of illegal substances for the purpose of trafficking, and being intoxicated while driving. Those were the two charges that Darius specifically wanted dropped (the others were a bonus), before he pled guilty.

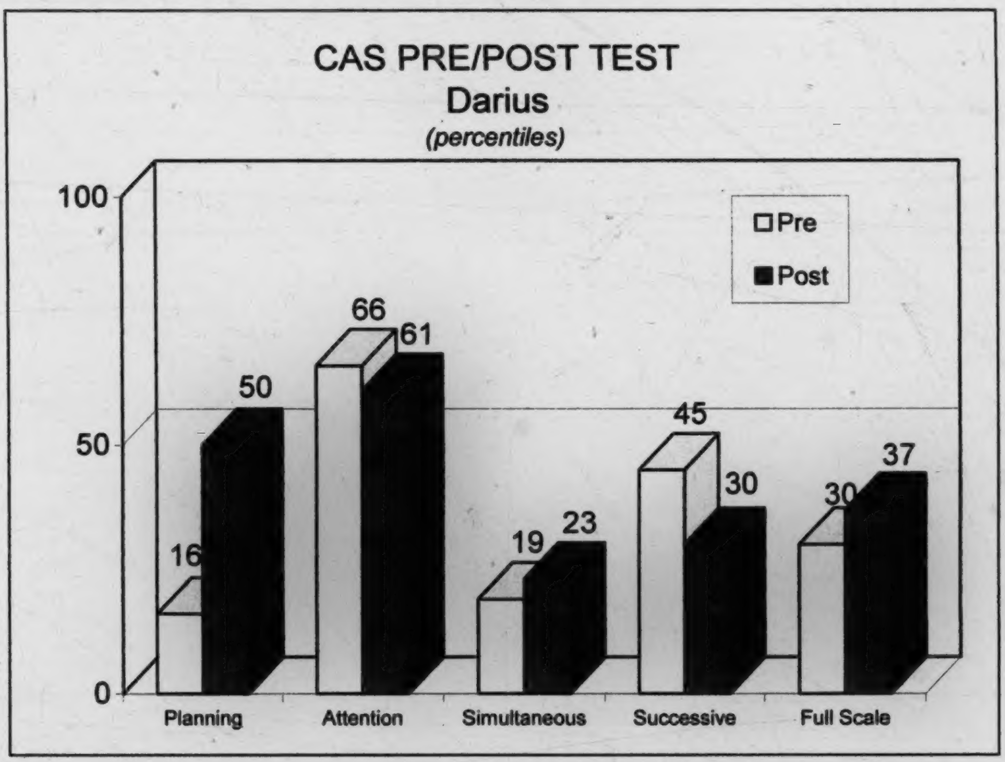
At the time of his last arrest Darius was living with his "drugie" friends, although he was supposed to be living with his mother. He left his mother's house because she was living with her fiancé at the time. His father is a drug dealer who has been in and out of jail on several occasions. Darius is their only child. He has three half-siblings from his parents various relationships. Darius indicated that even when he was quite young he did not like being around adults, and instead always hung around older kids that thought of him as a "little brother" who would do anything to please his older "brothers." He only lived with his father for a short time, and soon ran away because his father was always criticizing him. Although he spent little time living with his mother, Darius is obviously very fond of her. "She does what I tell her to do, and that's cool, and my dad was cool too sometimes, but only when we smoked pot together." Darius indicated that his mother would give him anything he asked for because she felt guilty that she had not been a better mom. She gave up trying to control him when he was about eight years old, even though she knew that he was into drugs and gang related activities at the time. When he did come home she was just grateful to spend time with him, regardless of what condition he was in at the time or his reason for visiting. Upon release Darius plans on living with his mother.

Cognitive Functioning

Turning to Darius' cognitive functioning, the CAS was very helpful in identifying these areas for Darius (See Figure D-1). Darius' scores on successive processing were higher than his scores on simultaneous processing, and his score on attention was his highest score. Only his score on planning was characteristic of most YOs. It is somewhat surprising that Darius' scores are not entirely characteristic of most YO CAS profiles, as his life circumstances seem to have been the most characteristic of YO recidivists. He has been out of control and a polysubstance abuser since he was approximately eight years old. He has been in foster care, and was first arrested before he was old enough to be charged, and has endured physical and sexual abuse. However, Darius has also been part of a gang (involved in illegal activities, and the drug trade) since he was very young, and perhaps this is where he picked up the skills that help him attend to the degree that he does.

Darius' scores on the CAS were usually comparable with the scores that he obtained on his academic testing. Darius' pre and posttest scores on the *Cognitive Assessment System (CAS)* would indicate that his intellectual functioning is within the Average range. His results on the CAS could certainly not have been predicted, based on his developmental history. However, the CAS was very helpful in identifying areas of strengths and weaknesses for Darius, and his scores on the CAS were usually comparable to his scores on Woodcock (more so than on the KeyMath). He demonstrated a pattern of relative strengths and weaknesses on his pre test PASS Scale scores. Most remarkable is Darius' reduced score in Successive Processing after remediation. To his credit his score

Figure D-1. Histogram of Darius' CAS Pre/Posttest Results



in Planning increased substantially. His pre test Full Scale score (92), which provides an index of the overall level of an individual's cognitive functioning, was in the average range. He received his lowest pre test score of 85 (Low Average) on the Planning Scale. This score (given his Full Scale score) is deemed a significant weakness at a .05 level. An area of significant strength (at a .05 level) on the pre test for Darius, (given his Full Scale score), was on the Attention Scale (106, Average Range). The Attention Scale contains subtests in each of Expressive Attention, Number Detection, and Receptive Attention. Although his score on Number Detection was average, his score on Expressive Attention, designed to measure selectivity and ability to shift attention, was almost twice that of his score on Receptive Attention. Receptive Attention involves detecting a target stimulus while avoiding distracting stimuli, and has been shown to be predictive of reading disability and attention disorder. His score on Expressive Attention was deemed a significant strength (at a .05 level) while his score on Receptive Attention was deemed a significant weakness (at a .05 level). The latter score was found in only 8% of the standardization sample, given his Attention Scale mean. The differences in scores on these two subtests indicate that Darius can be selective, and has the ability to shift attention when completing a task, but only under certain circumstances. His pre test scores on the Simultaneous (87) and Successive scales (98) were in the Average Range. All subtest scores within the Simultaneous and Successive Processing Scales were comparable. Significant differences (at a .05 level) were found between the various scales of Planning (85) and Attention (106) (this size of difference was found in only 8.4% of standardization sample), and Attention (106) and Simultaneous (87).

General Health Concerns

Darius remembered being physically healthy as a child. Darius had been involved with Social Services on several occasions, and was under temporary guardianship order at the time of his arrest. He had been in two foster homes, but always ran away to be with his older "friends." He started staying out overnight when he was eight years old. He remembered always being physically healthy and active. He had never been in the hospital overnight, but was knocked unconscious once from a blow to the head that he received while fighting. He stated that his mother told him that he was sexually abused when he was just a little boy. He also was physically abused by several of his step-fathers. He indicated that the only time he was suicidal was when he was stopped after the high-speed chase and he dared the police to shoot him, because at the time death seemed preferable to a long period of incarceration in EYOC. He reported getting along well with his peers, all of whom were antisocial, and he admitted to gang involvement from an early age (when he was approximately eight years old), although he couldn't become an official gang member until he was older (about 12 years old). As he was too young to be charged when he first joined the gang, they would use him to commit B&Es and to run drugs. He did not recall being alone much as a child. He indicated that he watched "a lot" of TV and preferred that to going outside and playing with same age peers. He had never had a legitimate paying job although he has what he describes as a "serious" bank account[47] for someone his age. He was not allowed on the work crew in

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[47] Darius claims to have "a few thousand in bank"; proceeds from drug trafficking.

EYOC because of his behavior, and even if he were allowed he indicated that he was categorically opposed to "working for nothing."

Health and Substance Abuse

Darius indicated that he was approximately eight years old when he started using both alcohol and drugs. He indicated that he has smoked pot, but mostly had done a lot of jibs (crystal met), acid, ecstasy, mushrooms, coco puffs, rocks, and crack. He had also been extensively involved in drug trafficking. He had never participated in any drug and alcohol treatment programs. When he was younger he was sent on two occasions by his social worker, to see a child psychiatrist for behavioral problems.

Integrating Health and Cognitive Factors

It seems quite likely that Darius' neurological development was hampered by his early drug use, especially given that he was a polysubstance abuser by age eight. However, this drug use did not appear to have had as deleterious impact on his neurological functioning as it did with Yves. There are many possible explanations why this might be so, one being that Darius had continual, albeit usually dysfunctional, contact with his parents and consequently did not have to deal with the same sense of loss and abandonment and longing as Yves did.

Sensory/Perceptual Challenges

One could suggest that Darius experiences sensory/perceptual challenges based on his Simultaneous and Successive Processing test scores on the CAS. Although Simultaneous and Successive Processing involve both visual and auditory processing, simultaneous processing primarily involves intake and processing of visual stimuli –

working with spatial information, while successive processing primarily involves auditory processing – working with sounds in a specific order. Challenges in simultaneous or successive processing could therefore be interpreted as challenges in visual and/or auditory processing.

Darius' scores on Simultaneous and Successive processing would indicate that he is experiencing such challenges. Darius' pretest score on Simultaneous Processing was at the 19th percentile, while his score on Successive Processing was at the 45th percentile. However, after remediation with PREP he scored at the 23rd percentile on Simultaneous Processing, but only at the 30th percentile on Successive Processing. The posttest scores indicate that although Darius was able to make some gains in working with spatial information (visual processing), unfortunately he was not able to make similar gains in working with sounds in a spatial order (auditory processing), in fact he scored at 15%tile points lower on posttesting. (This loss in scores on various items upon posttesting was somewhat of pattern for Darius, and might be due to the effects of day to day differences in Darius' motivation, energy, attention, etc.).

Response to PREP Remediation

After eight weeks of intervention Darius' largest gain on the CAS was on the Planning Scale where he managed a 15 point gain from 85 to100, a greater gain than would have been predicted by his pre test scores. He gained three points on his Full Scale score, but unfortunately lost two points on the Attention Scale and six points on the Successive Scale. His Full Scale (95), Attention Scale (104), and his Successive Scale (92) posttest scores put him in the Average range and within what would have been predicted by his pre test scores. Once again his score of 89 on the Simultaneous Scale placed him in the Low Average range. On the posttest all subtest scores within each PASS Scales were fairly close. Once again significant differences (at a .05 level) were found between the Attention Scale (104) and Simultaneous Processing Scale (89).

Darius' ability to pay attention should allow him to concentrate efficiently when he is motivated and/or not otherwise preoccupied. His significant increase on the Planning Scale is impressive and will likely make it easier for him to think ahead and grasp the "big picture." Perhaps this in part explains Darius' change of attitude and his willingness to make an effort to keep his behaviour under control thus enabling him to participate in the treatment program at AHE. There is little explanation for his loss on Successive Processing, except perhaps his inability at the time to settle down to the task at hand, a problem he experienced on a few occasions during remediation. This might also explain his lower posttest score on the Attention subtest.

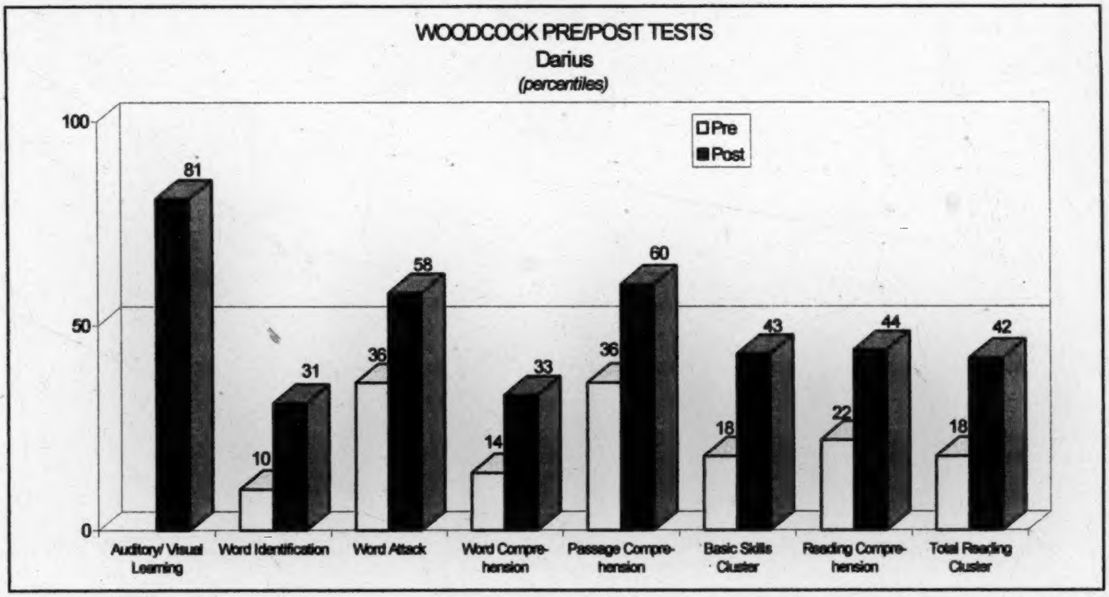
Reading and Math

Darius' school history displayed factors of underachievement. Darius reported attending "lots" of schools, and having been in the BD program for as long as he could remember. He reported being suspended on numerous occasions and being expelled a few times. He stated that he failed grade seven because he was expelled for selling drugs on school property and having a knife. He was attending school at EYOC, and on one occasion during the remedial sessions was suspended for three days for swearing at a teacher. He never liked school past grade one and attended as little as possible after that. What he remembered most about his teachers was that one male teacher was really scared of him and he could not figure out why because he had never done anything to him personally. He stated that he did not have many books when he was little, that his mom used to read to him once in a while, but that he preferred watching TV to having storybooks read to him. He recalled his mother being interested in his school performance and grades, but not in his homework. When asked what he would do as a parent with his own children he replied, "When I settle down, if I settle down, I'm gonna make sure that I have my shit together first so that I can spend time helping 'em grow up, instead of being so busy with my own stuff." This statement somewhat belies Darius' statement that he had a great life as a child!

Darius' pre test scores on the *Woodcock Test of Reading Mastery* are presented in Figure D-2, and indicate that he is currently reading at a grade five-six level. Of interest are the significant gains he made on all subtest after remediation with the PREP. However his scores were still below what would have been predicted given his CAS scores, and are indicative of ability/achievement discrepancies.

Given his score of 106 on the Attention Scale the following scores are significantly lower than predicted (at a .05 level); 89 in Reading Comprehension (found in only 10% of the standardization sample), 75 in Letter/Word Identification (found in only 2% of the standardization sample), and 85 in Basic Reading Skills (found in only 9% of the standardization sample). Darius' posttest scores also show a pattern of relative strengths and weaknesses. He scored 127 (16.9 grade equivalent) on the Auditory/Visual subtest. His score of 103 on Passage Comprehension and Word Attack are significantly higher (at a .05 level) than would have been predicted by his Simultaneous Processing

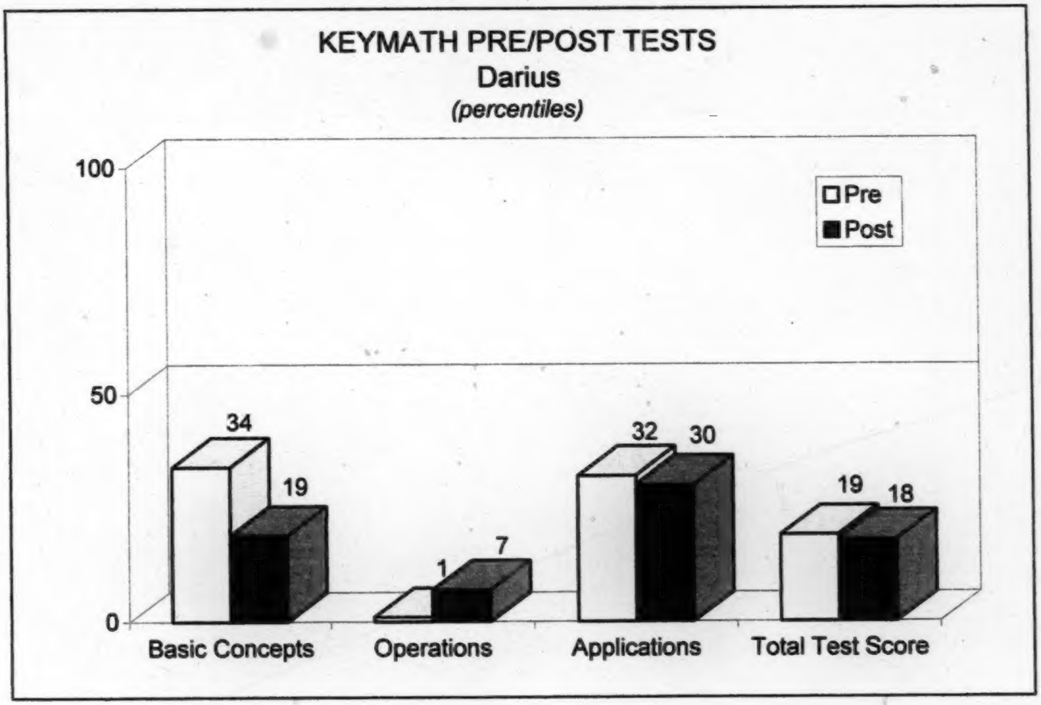
Figure D-2. Histogram of Darius' Woodcock Pre/Posttest Results



score of 89. His score on Word Identification also improved notably, a somewhat unexpected, but pleasant surprise. The significant increase on Word Attack and Word Identification are examples of "far transfer" of learning, and are likely due to the PREP intervention that he received (Das, Naglieri, & Kirby, 1994). His score of 104 on the Attention Scale indicates that his score of 90 on the Letter-Word Identification is significantly lower than predicted (at a .05 level). According to Woodcock (1987), there can be several likely reasons for Darius' discrepant ability/achievement scores such as instruction which was too challenging, impoverished background, distinctive learning disabilities, emotional or hearing difficulties, and being uninterested in reading. For Darius, perhaps his discrepant ability/achievement scores are the result of an impoverished background, relatively little adult interaction during his formative years, and poor school attendance (Samuelsson, Herkner, & Lundberg, 2003).

Darius' scores on the *KeyMath,* displayed in Figure D-3, once again display areas of relative strength and weakness, and indicate that he is currently achieving at approximately a grade seven level. Noteworthy is his extremely low score on Operations (that consist of basic arithmetic skills of addition, subtraction, multiplication, division, and mental computation). His pre test score on Basic Concepts (94) was in the Average range, as was his score on Applications (93). His score on the Operations (65) subtest was in the Markedly Below Average range. His pre test Total Test score (87) places him in the Below Average range. There were statistically significant differences between pre test area scores (at a .01 level) in Basic Concepts (94) and Operations (65), and Operations (65) and Applications (93). His posttest score on Basic Concepts (86) was in

Figure D-3. Histogram of Darius' KeyMath Pre/Posttest Results



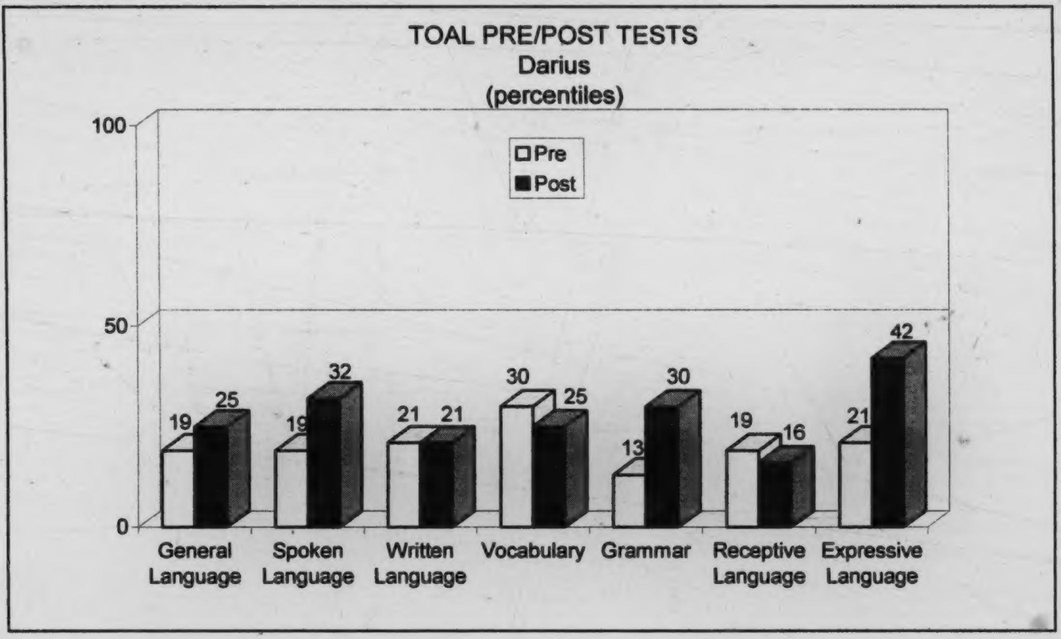
the Below Average range, as were his scores on Operations (75) and Total Test (89). His posttest score on Applications (93) was once again in the Average Range. Although there were no statistically significant differences between any of Darius' pre and posttest scores, there were statistically significant differences among both pre and post area scores. Statistically significant differences (at a .05 level) in posttest area scores were noted between Operations (78) and Applications (92). His score on Planning would not have predicted his difficulties with Operations.

According to Connolly (1988), "A statistically significant difference between two area standard scores "signals an imbalance in the student's knowledge and skills and ability to apply them (Connolly, 1991, p. 26)." However with Darius what is more noticeable is the inconsistency of his marks, not only with his scores on the KeyMath but also with his scores on the CAS, and TOAL. He improved in some areas only to lose ground in others. This would seem to be more indicative of inconsistent motivation or attention (despite his penchant for attending) and environmental factors rather than of a learning disability, per se (Samuelsson, Herkner, & Lundberg, 2003). This would be consistent with what I observed with Darius over time.

Language

Darius' pre and posttest scores on the *Test of Adolescent and Adult Language-3 (TOAL)* as presented in Figure D-4, display areas of relative strengths and weaknesses. Most remarkable are the substantial gains he made on five of the seven subtests. Darius' General Language composite pre test score (87) was in the Below Average Range, as were his composite scores on Spoken Language (87), Written Language (88), Grammar

Figure D-4. Histogram of Darius' TOAL Pre/Posttest Results



(83), Receptive Language (87), and Expressive Language (88). His Vocabulary composite score (92) was in the Average Range. His subtest score in Listening (79) was in the Poor Range. His only subtest scores in the Average Range were in Reading (97), and Speaking (97). No significant pre test discrepancies were observed between any of Darius' composite scores. His low scores on the TOAL are consistent with his scores on the Simultaneous and Successive Processing Scales of the CAS.

Darius' posttest scores on the TOAL-3 show areas of relative increases and loses, with a different pattern of strengths and weaknesses than on his pre test scores. He scored in the Average Range on the following composites; General Language (90), Spoken Language (93), Vocabulary (90), Grammar (92), and Expressive Language (97). He scored in the Below Average Range once again on Written Language (88), and Receptive Language (85) composites. His subtest score in Speaking increased from Poor (79) to Below Average (88). His subtest score in Listening (94), and Writing (100) were in the Average range. His subtest score in Reading decreased from Average (97) to Poor (79). This was Darius' area of most significant loss. He managed to increase his Listening subtest score from Poor (79) to Average (94), and his Writing from Below Average (82) to Average (100). On posttest scores, a significant discrepancy of 21 points was noted between Darius' Reading (79), and Writing (100) subtests. However, it is likely that Darius' significant drop in Reading is due to a "momentary" lack of focus or attention to the task at hand rather than an actual loss in ability, especially given his overall gain in reading skills on the Woodcock. According to Hammill, Brown, Larsen, & Wiederholt, (1994), it is likely that Darius' performance is commensurate with his ability, based on his overall performance on the TOAL (Hammill, Brown, Larsen & Wiederholt, 1994). Darius' difficulties with reading and writing are probably the results of experiential factors, rather than learning disabilities, per se (Samuelsson, Herkner, & Lundberg, 2003).

Darius' overall pre and posttest results did show that he has a capacity for learning, after only 8 weeks of intervention, as evidenced by his gain on some of his posttest scores. On the CAS, he made significant gains in Planning, perhaps due to the fact that his time spent in remediation enabled him to be more organized in his thinking, and consequently more planfull. His gains on the Woodcock are impressive, to say the least, especially given his school history and his early drug use. Unfortunately these gains did not carry over to the Attention and Successive scales of the CAS, two subtests of the TOAL, and most of the KeyMath. These losses cannot be readily explained, except perhaps due to a lack of settling and/or motivation. On the other hand, perhaps like Erwin, his losses are the result of what was happening for him at the time of testing. Given that Darius' school attendance was negligible at best, his capacity for learning is encouraging and would seem to indicate that he is far from having reached his educational potential. This would seem to offer hope for his future if/when he decides to leave his antisocial life behind.

During the 10 weeks that I worked with Darius, I got to see several sides of his personality. He was usually in a good mood with a twinkle in his eye and a mischievous grin on his face. He was often distracted by what was going on around him and it usually took him a while to focus on the task at hand. In spite of this, when he finally did get down to the project of the day he was obviously committed to doing his best. Rarely did he present as serious. He was by far the most verbose and most imaginative of all the participants, as well as being the most inquisitive. (Darius' transcribed recordings contained almost twice as many pages as anyone else's). He was the only participant to compare the results of a task which ended in a variety of up and down peaks to the stock market, and then proceed to tell me where investing would be wise or stupid. He also asked a lot of questions about everything and nothing, rather like a little child really enjoying the company of an interested adult. Darius loved to "doodle" creatively and I was often privy to the impish side of this young man. He liked to tease and displayed a quick sense of humor. For instance during a session when he was telling me about how many drugs he used to do I reminded him that this stuff was bad for him, to which he replied, "If I cared about what was bad for me I wouldn't be here." I then tried another approach by reminding him that drugs were extremely hard on his brain, his most important piece of equipment, to which he countered "Well, that's not what the girls think!" Darius is the type of person that most adults usually find either quite personable or really unlikable and he is generally quite adept at sorting out who's who. When he became aware of someone's dislike for him, Darius usually goes out of his way to give them a reason to reinforce those feelings of dislike. He could be very witty, but also very imprudent when dealing with someone whom he perceived as disliking him. On one occasion, after being sanctioned by a staff member who obviously had little use for him, Darius commented in a barely audible voice -just loud enough for the staff to hear, "You'd think you could expect better from an adult and especially a staff. I'm just a kid doing my time but he's an adult whose getting paid good bucks to do a job that he ain't doing very well." He appeared to get along very well with his peers and was reported to be a "natural leader," something that was evident when he interacted with his peers. The highest level that he has ever been on in EYOC is level three and that was short lived and on a prior commitment. During the study, Darius had to be escorted from the disciplinary unit as well as from solitary confinement on several occasions for smoking drugs, instigating a riot, and various other infractions. He remarked, "This last time, I wasn't involved in the rioting, not as a leader, and I ain't no follower. But if you get branded here and something happens on your unit that you've been involved in before, you're automatically to blame. And yea, I've been involved in a lot of shit, but not all the time, and you know most of the time if they're going to blame you anyway you may as well have the fun."

Yet this same young man would go out of his way to be helpful and pleasant with those adults whom he felt like him. Darius was never disrespectful during his time with me and although he did like to push the limits, he never pushed "beyond." He was one of two participants who noticed that I had gotten a haircut. He was the only participant to ask how my research was going and he did so on several occasions, as well as offering to "fix" the results if I thought that would be helpful. He also offered to put the word out that "everyone in the research project better be doing a good job." I graciously declined and informed him that all I needed from him was that he do his best. On one occasion his remedial session was scheduled to occur at the same time as he was about to watch a movie with his peers, a movie they all seemed to really want to see. When Darius told his peers that he wouldn't be able to watch with them, they insisted that he just say he couldn't do today's session to which he replied, "I gave her my word, and I can't go back on it now." He also took great delight in shaking hands with me, without fail, after every session.

Overall, Darius can best be described as a young man with a good heart, but with apparent serious criminal tendencies. Darius' life experiences are unusual to say the least. He has been basically allowed to do as he pleased, since he was eight years old, which is also about the time he started using drugs. He had little exposure to print as a preschooler, and preferred watching TV to being read to. He also attended school as little as possible, and when he did attend it was usually only for a short time due to repeated suspensions and expulsions. Under these circumstances, one might reasonably expect that Darius' cognitive development would be impaired to a much greater degree that is apparent in his presentation.

Darius' Experience with Remediation

The PREP remedial program meets all of these basic requirements for successful remediation, and appeared to be a viable option in the remediation of academic difficulties with Darius. There is evidence to suggest that Darius' cognitive functioning improved as a result PREP. He made some gains in Simultaneous Processing, as well as significant gains on Planning. In addition, PREP offered Darius increased awareness of planning and using strategies to make him more successful and confidence in his ability to do "school stuff." That he showed any change at all, in such a short period of time, is quite remarkable especially in light of what he had accomplished during prior "learning" experiences. The PREP approach appeared to be an ideal way for him to learn, as he was not focused on content and consequently he was able to concentrate on what he was doing to obtain success. PREP seemed to have enabled him to greatly increase his planning abilities, perhaps as a result of the way PREP is designed, where exercises build on one another and in a systematic and planned fashion.

Remediation for Darius included a series of 20 sessions over a period of eight weeks. He was able to complete the entire PREP program in 10 sessions. The 10 remaining sessions were spent on language arts type activities, and various "mind bender" puzzles. During the remedial sessions Darius was often distracted by what was going on in the common area adjacent to the room where the sessions were held. However he appeared intent on putting forth his best effort and trying to focus on the task at hand. Darius complained of being tired on a few occasions and was by far the most easily distracted of the lot. He really seemed to enjoy the idea that he was doing well while learning new "stuff." He completed all PREP tasks successfully and indicated that he really enjoyed the PREP sessions, especially the Global Tasks that he found the most challenging. He did not find the Bridging tasks as enjoyable or challenging because he was already quite a good reader and good at spelling, which he pointed out to me on more than one occasion.

During the PREP sessions Darius experienced some difficulties articulating the strategies that he was using but there did not seem to be a specific pattern to these difficulties, and they appeared more happenstance than anything else. At times he seemed quite articulate at describing the strategies used and at other times the idea of a strategy seemed to escape him. For instance, he was asked what strategy he used on the Transportation Global task. This task requires that the participant reproduce a series of transportation vehicle pictures in order in which they are all presented for approximately five seconds initially and then individually for two to three seconds, before they are turned over once again. He replied, "I look at them and remembered which one was a piece of shit and what wasn't. Like that's a nice SUV, and that's old and falling apart. And the rims were different. That's one thing I look at is rims." Another example of Darius' ability to describe the strategies he used was during Shape Design Global task, where the individual is given 10 seconds to study a design that must be reproduced utilizing a combination of six shapes, differing in color, size, and contour (at the most complex level). "I just, I put it the way it is, as I see it on the first page with the required shapes and then I look and see what I need to do and see and say blue beside blue, blue right and yellow under blue, or blue on top, and like that." At other times Darius was unable to articulate any strategy. For example, when asked for the strategy he employed on the Related Memory task where he needed to choose the proper front half of the word to match to the back half, he said, "I don't know. I just did it." When prompted further he replied "I don't know. I never really thought about it." Another example of not being aware of any strategy used was on the Tracking Global task where the individual is presented with a village map with houses and trees and tracking cards illustrating a path from a starting point to either a numbered house or lettered tree. Darius did the tracking very quickly on this task. When asked about his strategy he said, "Point and guess?" When I laughed, he remarked, "No, I'm not just joking, I don't know, I just did it."

At times he got complacent after doing really well on a task, such as on the Window Sequencing Global task, for instance. This task requires that the participant reproduce a series of varied color and size chips in the same order that they were presented in, after they are displayed one at the time from left to right for approximately one second each. He initially did very well but approximately half way through started to make several mistakes until he refocused himself on the task at hand. He seemed to need constant feedback on how he was doing. He was prone to giving up quickly at times, but would just as quickly regroup and start again. He often initially appeared overwhelmed with tasks that presented a lot of graphic information, but seemed able to get past this relatively quickly. I eventually realized that his being overwhelmed was likely the result of feeling that he might not be able to successfully complete these tasks. Instances where he seemed intimidated when there was a lot of material presented on a page include the Related Memory Bridging task where he needed to choose the proper front half of the word to match to the back half and several examples are presented together on the page. Another example of seemingly being overwhelmed with the material presented was on the Connecting Letters task. Here the participant is required to follow a line to find the letter on the left side of the page that is connected to the letter on the right side of the page. Another part of the task requires that the participant use a sequence of letters on lines running in a sequence across the page to form a word. This task can appear quite daunting at first. When I mentioned to Darius that his reaction to these tasks seemed to be to want to give up because he thought he couldn't do the task at hand he quickly interjected, " I never say, I never say I can't, but what I say is ahhh shit."

During PREP sessions there were times when Darius displayed a certain ability to be organized and efficient, as on the Window Sequencing Bridging task. This task requires a participant to reproduce a series of letters in the same order in which they are presented from a letter bag containing several copies of all the letters of the alphabet. Darius was the only one to ask for time to arrange all the letters alphabetically before he started. He also asked for time to organize himself on Shape Design where the individual is given 10 seconds to study a design that must be reproduced utilizing a combination of six shapes (at the most complex level) that differ in color, size, and contour. To prepare for the task the participant needed to take the required shapes from the shape bag as displayed on the required shape page provided. Darius took the time to stack each type of chip separately (not a requirement of the task), but something that he chose to do and it served him very well. This allowed him to concentrate on displaying what he had memorized rather than being distracted while sorting the chips during each display. The Tracking Bridging task requires participants to read a passage and then follow a map of West Edmonton Mall to find their way from a designated point of departure to a specific destination while incorporating all the specified features. Darius was the only participant to plan ahead sufficiently to allow him to complete the task without any back tracking whatsoever. Darius was always thrilled to hear that he was improving from task to task. He seemed to be the most in need of constant feedback. For Darius, "near transfer" during the PREP appeared to be in his increased ability to organize himself and think ahead as remediation progressed.

That Darius benefited from PREP remediation is immediately obvious by the gains in his posttest scores. These gains are quite remarkable given his life experiences, his early drug use and his sparse schooling. Obviously PREP's design met many of Darius' needs when learning. It was obvious that Darius liked learning in this manner, and that he found it to be a lot of fun, compared to how he found "normal" school work to be. He also liked the constant feedback, and the ongoing successes. As well, there were considerably fewer distractions than there are in a regular school setting. When asked what he found the most helpful about PREP, he replied, "That planning shit is cool. I like that planning stuff. I knew about planning before, of course, because I make plans to meet my friends, make plans to get drugs when I need them, make plans to get money when I need that, but I never knew that you could make plans for school stuff. Like you can look at something and plan how to solve it, instead of just doing it like I was doing before. Some people might think I'm just a dumb kid for learning about it now, but I still think it's cool." I reassured him that no one who knew him would think he's dumb, and that the main thing was that he knew about planning now.

With the remaining 10 sessions, Darius struggled very little with the language arts type exercises and was able to successfully complete all of them in good time. On the "mind bender" puzzles Darius consistently did as well as the other young men. It was obvious that he enjoyed this portion of the session and looked forward to it. He, like the other young men, had some puzzles that appealed to him more than others. All indications are that Darius really enjoyed his remedial sessions and would gladly have continued attending until his release. He seemed to enjoy learning in a one-on-one situation and mentioned that he really liked being able to tell staff how well he was doing, and he especially liked to share with selected peers what he'd done or learnt of interest on any given day.

A YO's risk of re-offending, as documented, is mitigated by several factors. The most influential of these include, age of first incarceration, age of first arrest, academic achievement, and IQ. Consequently, the potential impact of the remediation on recidivism must be analyzed within this context. Given that Darius' experiences include first being incarcerated at age 14, being arrested for the first time at age 11, currently achieving at approximately grade five or six level, and that his IQ score is in the low average range, one would expect that he would re-offend within a short period of time after his release. However, such was not the case!

The suggestion that remediation with PREP had a significant impact on recidivism comes from a review of Darius' justice file. *Darius did not reoffend for more than eight months after his release*. This is a much longer period than would have been expected, based on the amount of time he previously spent in the community between various terms of incarceration (two months), as well as his behaviour in EYOC prior to PREP remediation

Indications are that Darius benefited from PREP remediation, not just from his assessment scores and by what he indicated, but by his most recent behaviors. Shortly after completing remediation, Darius' behaviour became more positive to the point where he went from being in Zama (a solitary/isolation cell) and on the disciplinary unit, to obtaining his level three. This enabled him to go to Alberta Hospital where he able to maintain his behavior and successfully completed several months of treatment. This is quite an accomplishment for Darius as he had never been on level three at any other time during any of his previous periods of incarceration. As well, this is his longest term without breaching his probation or reoffending.

However, one must also consider that other factors might have been at play that made it more likely that Darius would cease offending, such as the long sentence he received and was serving during the study, as well as "maturing out of the system" as many YOs do, although at 16 Darius is still considered a bit young for this factor to be significant. Whatever the reason, Darius seems to be in somewhat better control of his life, and this is considered quite remarkable under the circumstances.

Synopsis

Given what we know of Darius' background, it is not surprising that he is a young offender recidivist. He was basically abandoned by his mother at age eight, when she allowed him to do as he pleased, including staying out all night. This was also about the time he started to do drugs, and hang around with a gang. He also spent as little time as possible in school. There is no doubt that his life circumstances during his developing years had an impact on his cognitive development and subsequent functioning.

His language skills seem to have suffered as a result of his life experiences, and indeed his language skills continue to do so to this day, as evidenced by his test scores on the TOAL. However, it is obvious that Darius' cognitive functioning is not as impaired as one might have guessed under the circumstances. Perhaps this is because Darius had ongoing support from older friends that he chose to be around, and because he enjoyed the type of life he was living. It is likely that Darius sees a criminal lifestyle as an "alternative" lifestyle, rather than an undesirable one.

When I first met Darius he had no idea what he wanted to do when he was older, but indicated that for a while at least he would have to get back to the "good times" before he was ready to move on. To his credit, a few months after the study Darius' behaviour had improved enough to be admitted to Alberta Hospital's treatment unit. This is a significant change in thinking and attitude for Darius who until this time espoused what seemed to be serious antisocial attitudes and beliefs. However, staff at AHE did indicate that he was quite a "case" and that they really earned their money while he was on the unit, but that he had made significant progress while there. As well Darius is considerably younger than three of the other participants, who appeared more ready to leave their criminal past behind. Hopefully, the maturity that comes with two or three more years of experience will enable him to put his past behind him and get on with a productive adult life.

Antin

Antin is a 16 year old youth of Metis background, and is smaller than average in height and build. His upper body is well defined, as he has been doing weights during his time in EYOC. He presented pleasant, well groomed, and confident. He indicated that he wanted to be in this study because he had a lot of problems in school, especially with reading. He has not completed any other "courses" offered in EYOC. He was on Remand status for four counts of Failure to Comply with Recognizance, two counts of Robbery, two counts of Possession of Stolen Property <$1 000, Break and Enter to

Commit Theft, Resisting Arrest/Obstructing a Police Officer, Failure to Stop a Motor Vehicle as Directed/Trying to Evade Capture, Antingerous Operation of a Motor Vehicle, Property Damage; Robbery, and Theft < $ 5000. He was due in court in October, and again in December 2002. He was first arrested when he was 12 years old but was not charged at that time. Although he was subsequently involved in a considerable amount of antisocial behavior after his first arrest, he was not re-arrested until he was 13, at which time he was charged and convicted and received a three month custody sentence, as well as one year of probation to follow.

It becomes obvious based on the description that Antin provided in his interviews and other comments during his sessions, that he presents a classic example of childhood abuse, neglect, and poverty. The fact that his early developmental context contributed to behaviour problems might be assumed for Antin based on the fact that he already has an extensive history as a young offender.

Antin's descriptions of his early development underscore the neglect and abuse that were so evident in his life. When asked what was going on for him during his last crime spree, he indicated that he was on a "roll," out of control, and heavy into drugs. Antin does not know his biological father, however he has had a series of "Dads." Antin had no full siblings, but did have two younger half-brothers (both from different fathers) that his mother put up for adoption as infants. Antin indicated that he would someday like to meet his half brothers. His mother was only 16 years of age when he was born, and 17 and 18 years old respectively when the other two boys were born. When asked how he felt about his Mom having put up his two half brothers for adoption he replied, "Better them than me!" Antin indicated that he was never lonely as a child and spent a great deal of time with his mother and her friends[48]. He indicated that his Mom doted on him especially once he became the only child. Antin described his mother as a "cool mom" who always bought him everything he asked for and consistently gave him cash when he asked for it. As he got older they were more like friends than mother and son and he spent a great deal of time with his mom and her friends until it was no longer "cool" for Antin to be hanging around with his mother. All indications are that mom and many her "friends" where involved in antisocial activities. Antin's mother was in jail at one time and was also involved with mental health and social services. Upon release, Antin plans on living with his mother.

Cognitive Functioning

Turning to Antin's cognitive functioning, the CAS was very helpful in identifying areas of strength and weaknesses for Antin (See Figure A-1). His scores on the CAS were not comparable with the scores that he obtained on his academic testing, likely due to ability/achievement discrepancies. Antin's pre test scores on the *Cognitive Assessment System (CAS)* would indicate that his intellectual functioning is within the average range[49]. His results on the CAS indicate a pattern of strength and weaknesses that could

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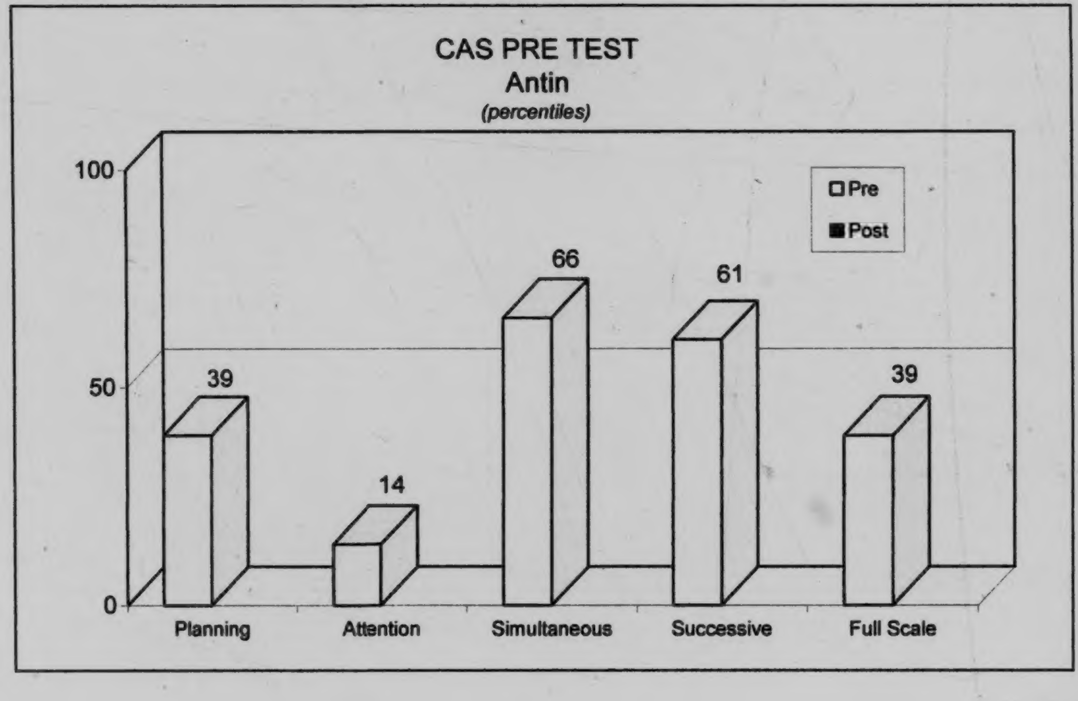
[48] Indications are that most of Mom's "friends" were males, who were continually coming and going and giving her money.

[49] As I was not able to contact Antin after he was released from EYOC, no posttesting results were available.

Figure A-1. Histogram of Antin's CAS Pre Test Results



have been predicted given his life experiences – abuse by mom's boyfriends, neglect by mom, attending many different schools and substance abuse beginning at an early age. What could not have been predicted based on his developmental history, are his scores on Simultaneous and Successive processing. Although the CAS was very helpful at identifying areas of strength and weaknesses, his CAS scores were not entirely comparable with the scores he obtained on his academic testing, perhaps due to an ability/achievement discrepancy.

His score on the Attention Scale indicates that this is an area of comparative difficulty. His pre test Full Scale and Planning Scale scores of 96 were in the Average Range. His score on the Planning scale was significantly increased by his mark on Planned Codes, which was notably higher than his marks on the other two other subtests of Matching Numbers, and Planned Connections. Planned Codes is a timed test that measures a child's efficiency and ability to use strategies to complete a task. This high a score on this subtest, given his marks on the other two subtests, is deemed significant at a .05 level and only found in 10% of the standardization sample. He received his lowest pre test score (84) (Low Average) on the Attention Scale, (subtest scores were close in this scale). An area of significant strength (at a .05 level, given his Full Scale score) on the pre test for Antin was on the Simultaneous Scale where he received a score 106. Antin's Successive Scale pre test score of 104 is in the Average range (all subtest scores on both scales were within a close range). Significant differences (at a .05 level) were found between Attention (84) and Simultaneous Processing (106), and Attention (84) and Successive Processing (104).

General Health Concerns

Antin had never been involved with Social Services, and remembered always being physically healthy. He had been in the hospital overnight once for a nosebleed that just would not quit. He had never been knocked unconscious. He denied any history of sexual abuse but indicated that he was physically abused by his Mom's ex boyfriends. He stated that he had not thought about suicide per se but had thought about how much easier it would be to be dead. "That was a long time ago and I don't remember what was going on." He reported getting along well with his peers, all of whom were antisocial, and he denied any gang involvement. Besides spending a great deal of his time with his mother and her friends, as a child he recalled spending most of his time watching TV and playing video games for hours at the time. He had never had a paying job, "Never needed one, my mom took care of that." He was not currently on the "work crew" at EYOC, nor did he have any desire to be because he would never consider working, especially for "nothing" (YOs do not get any compensation for being on the work crew).

Health and Substance Abuse

Antin indicated that he was approximately 12 years old when he started using both alcohol and drugs. He stated that he done weed, hash, acid, ecstasy, jibs (speed crushed up), and mushrooms. Antin indicated that he prefers weed because it is less harmful and his disposition is better with weed than if he drinks. He stated that had never been involved in drug trafficking and had never attended any drug and alcohol treatment program. When he was younger he saw a counselor for anger management and problems with his mom.

Integrating Health and Cognitive Factors

It seems likely that Antin's neurological development has been hampered by his relatively early polysubstance abuse starting at around age 12 and ongoing abuse at the hand of his mom's various boyfriends, as evidenced in his planning and attention scores.

Sensory/Perceptual Challenges

Antin's scores on Simultaneous and Successive processing would indicate that he is not experiencing either visual or auditory challenges. Antin's pretest score on Simultaneous Processing was at the 66th percentile, while his score on Successive Processing was at the 61st percentile. These scores would indicate that processing of both visual and auditory stimuli is an area of considerable strength for Antin.

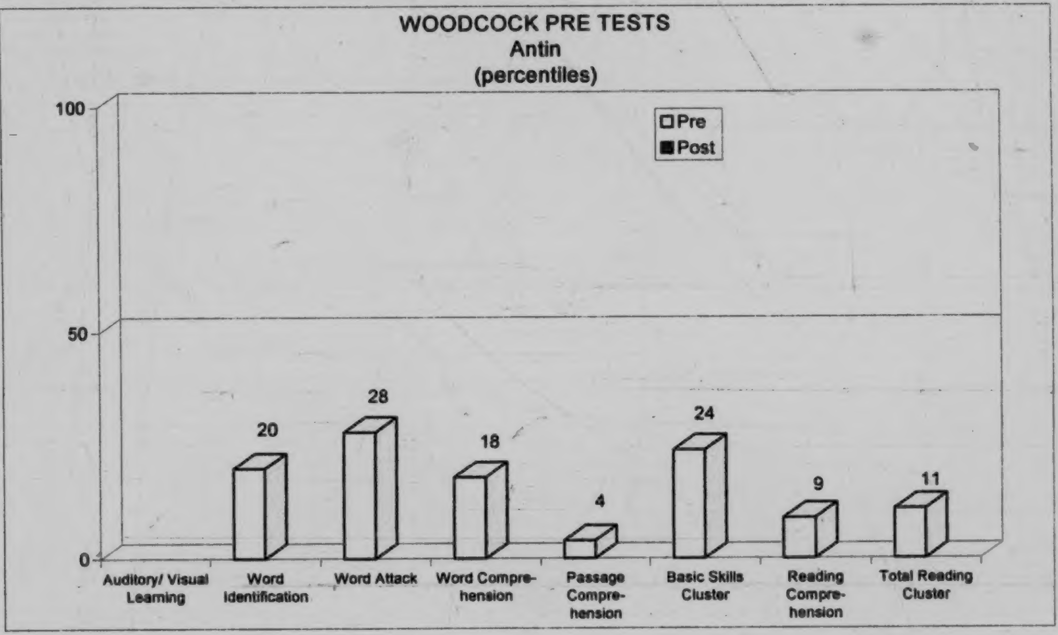
Overall, given Antin's Average score on the CAS Full Scale as well as his high average scores on the Simultaneous and Successive Processing Scales, one would expect that he would be able to meet the demands of normal daily functioning, as well general academic requirements, despite his Low Average score on Attention.

Reading and Math

Antin's school history displayed similar factors of underachievement. He reported attending "probably 15 or 16 schools," having failed a grade and having been in the IOP program. His pre test scores indicate that he was reading at a grade five to six level at the time of testing. He reported never liking school before he came to EYOC (he was currently attending school) "because on the outs it's boring, and I'd rather smoke drugs. But in here it gives me something to do." He recalled getting along well with certain peers, and also remembered getting along well with some teachers. He was suspended "many times," and was expelled for fighting, over his girlfriend at the time. He stated that he had "lots of Dr Seuss' books" when he was little, that his mom used to read to him sometimes, and that he could recognize some words from his storybooks before he started school. He recalled that his mother was interested, at times, in his school performance, homework, and grades. When asked what he would do as a parent with his own children, he replied "I'll give them what they want." Antin did not see anything wrong with the way he was brought up and the fact that he was in jail was just a minor inconvenience.

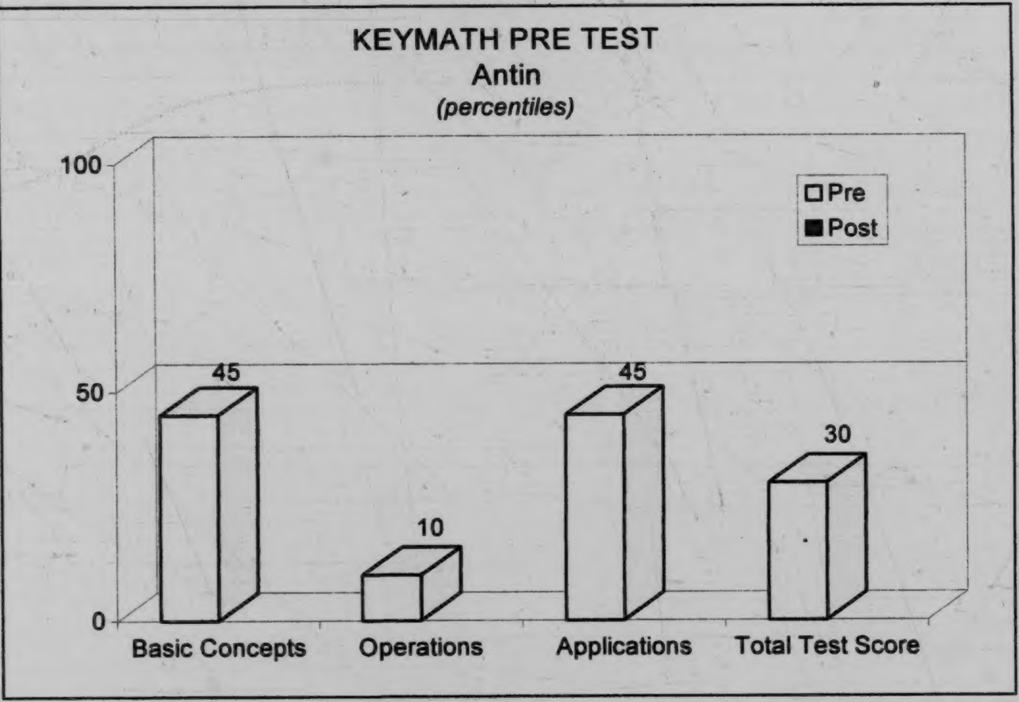
Many of Antin's pre test scores on the *Woodcock Test of Reading Mastery,* presented in Figure A-2, were below what would have been predicted given his CAS scores and are indicative of ability/achievement discrepancies. His Passage and Reading Comprehension scores were very low comparatively speaking. Given his score of 106 on the Simultaneous Processing Scale the following scores are significantly lower than predicted (at a .05 level), 75 on Passage Comprehension (found in only 1% of the standardization sample), 87 in Reading Comprehension (found in only 7% of the standardization sample), 82 in Letter/Word Identification (found in only 3% of the standardization sample), 89 in Basic Reading Skills (found in only 10% of the standardization sample), and 92 in Word Attack. For Antin, perhaps these discrepant ability/achievement scores are the result of an impoverished background, and poor school attendance.

Figure A-2. Histogram of Antin's Woodcock Pre Test Scores



Antin's scores on the *KeyMath,* presented in Figure A-3, also display areas of relative strengths and weaknesses. Noteworthy is the fact that Antin had just received "Honors" on his Math 14 test two days prior to being tested with the KeyMath! His pre test score on Basic Concepts (98), Total Test (92), and Applications (105) were all in the Average range. His score on the Operations (81) was in the Below Average range. His pre test placed him in the Average range. There were statistically significant differences between pre test area scores in Basic Concepts (98), Operations (81) (at a .05 level), and Operations (81) and Applications (105) (at a .01 level). Antin's scores on the KeyMath are consistent with his scores on the CAS, Woodcock, and TOAL where it also seemed that there was an imbalance between his knowledge and skills and ability to apply them. Antin's overall pre test results would indicate that his life experiences have significantly affected his cognitive development, at least in some areas, such as attention and with oral language, especially. His difficulties are likely the result of an impoverished background, poor school attendance, and general learning disabilities that have not been previously identified. The idea that Antin is experiencing learning difficulties is supported by his profile of discrepant scores on the various tests of abilities as well as on the achievement test, where his profile is one of significant discrepancies between highest and lowest scores within each test. It is likely that Antin's simultaneous and successive processing abilities have helped him to compensate for his difficulties with selective attention.

Figure A-3. Histogram of Antin's KeyMath Pre Test Scores



Language

Antin's pre scores on the *Test of Adolescent and Adult Language-3 (TOAL)*, as presented in Figure A-4, display areas of relative strengths and weaknesses. It is obvious that oral communication is an area of significant difficulty for Antin. His General Language composite pre test score (89) was in the Below Average Range, as were his pre test scores on the Grammar (82), Expressive Language (82), and the Spoken Language (82)[50] composites He scored in the Average range on the Written Language (97), Receptive Language (97), and Vocabulary (97) composites. His subtest scores in the Below Average range were in Listening (85), Writing (85), and Speaking (82). His only subtest score in the Average range was in Reading (109). Although there were no significant discrepancies noted between composite scores, a significant discrepancy of 24 points or more was observed between Antin's Reading (109) subtest pre test scores, and his Listening (85), Speaking (82), and Writing (85) subtest pre test scores. This would seem to indicate that his capacity for comprehending graphic messages is far superior to his ability to understand oral language, and to express himself orally or in written form. According to Hammill, Brown, Larsen, and Wiederholt, (1994), "Because listening and speaking skills are seldom addressed in any formal way in school programs, many persons reach adulthood without having learned to use speaking and listening abilities as learning tools and perhaps in ordinary communications as well (Hammill, Brown, Larsen & Wiederholt, 1994, p. 37-38)." Given Antin's pre test scores it is obvious that his

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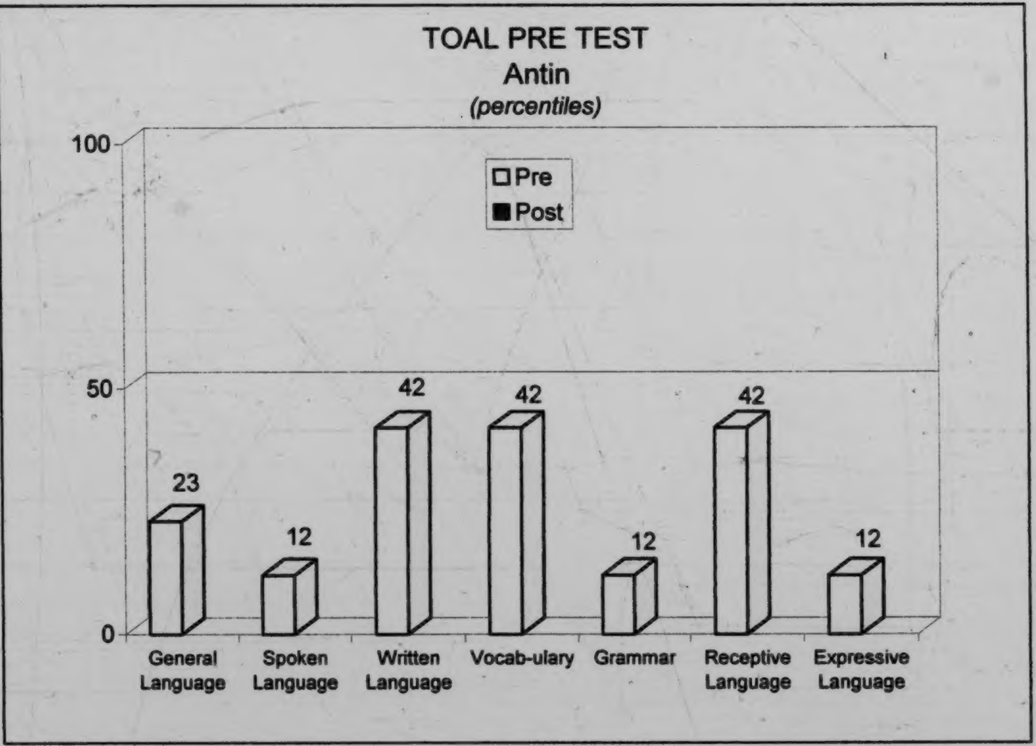
[50] His low scores in speech production appear inconsistent with his high scores on the successive processing scale of the CAS.

Figure A-4. Histogram of Antin's TOAL Pre Test Results



expressive language skills place him at a disadvantage when it comes to communication and school performance, a deficit which is likely compensated for by his simultaneous and successive processing abilities.

Antin's overall pre test results would indicate that his life experiences have significantly affected his cognitive development, at least in some areas, such as attention and with oral language, especially. His difficulties are likely the result of an impoverished background, poor school attendance, and general learning disabilities that have not been previously identified. The idea that Antin is experiencing learning difficulties is supported by his profile of discrepant scores on the various tests of abilities as well as on the achievement test where his profile is one of significant discrepancies between highest and lowest scores within each test. It is likely that Antin's simultaneous and successive processing abilities have helped him to compensate for his difficulties with selective attention.

During the five weeks or so that I got to know Antin it was obvious that he had put in considerable effort to be "cool." He walked the walk and talked the talk. His walk was a sort of cross between a slow shuffle and a saunter, and although it was obviously calculated it was just as obviously something he was comfortable with. While he could talk like a normal kid and was not afraid to do so, his way of letting you know that you were "cool" was his " 'tsup?" (what's up) greeting. He was usually in a good mood, but sometimes pensive especially when he was having trouble with his girlfriend. Nonetheless, he could focus on the task at hand and was seldom distracted by what was going on around him. He seemed sincere about trying his best. On a few occasions one could see a "playful" side of this young man when he joked around or displayed his wry sense of humor. He appeared to get along well with his peers and certainly seemed to be "the man." Reports indicate that staff found Antin to be personable and an easy kid to get along with, and someone who got on well with his peers. This ability to get along with adults is perhaps the result of having spent a great deal of time with adults while he was growing up.

Overall, Antin can best be described as a young man with a good attitude towards adults as well as a certain need for "posturing," something that he was obviously well rewarded for by his peers. It is likely that his cognitive development was considerably impaired by his life experiences, to a greater extent than one would anticipate from spending time with him.

Antin's Experience with PREP

Antin responded in a very favorable manner to PREP, and really seemed to enjoy his sessions. As there are no posttest results for Antin (due to his unanticipated release), there is no way to gauge how much he might have benefited from this remediation.

Remediation for Antin included a series of six sessions over a period of two weeks with four sessions during the first week, two sessions the following week. He was able to complete PREP tasks without difficulty. Antin was very focused on the task at hand and appeared intent on putting forth his best effort. He never once complained of being tired and never appeared to be distracted. Antin indicated that he really enjoyed the PREP sessions, especially the Global Tasks that he found the most challenging. He did not find the Bridging tasks as enjoyable, because they were "too much like school stuff."

Antin was able right from the onset at articulating what strategies he was using. For instance, the Window Sequencing Global task requires that the participant reproduce a series of varied color and size chips in the same order that they were presented in, after they are displayed one at the time from left to right for approximately one second each. This is the strategy that he articulated for this task, "I just repeated the colors over in my head. The shapes just stuck with me, I'm good with shapes. With the letters, I say the letters over in my head, then I say the word." Another example of Antin's ability to articulate the strategy he used was on the Connecting Letters Global and Bridging tasks. Here a participant is presented with a sequence of letters on lines[51] that run across the page, and together the sequence of letters on each line form a word, "I just looked at the colors on one side and matched it with the color on the other side. With the black lines I just followed them with my eyes."

During the few PREP sessions that Antin attended, he was the most "organized" of all the young men. On the Window Sequencing Global task, previously mentioned, he sorted all the shapes by color before beginning. The Window Sequencing Bridging task requires a participant to reproduce a series of letters in the same order in which they are presented, from a letter bag containing several copies of all the letters of the alphabet. Here Antin sorted all the letters and then lined them all up in alphabetical order, before beginning the task. For Antin, "near transfer" during the PREP appeared to include increased ability to understand and articulate his use of strategies, from one task to another. All indications are that Antin really enjoyed his PREP sessions, and would gladly have continued had he not been released. He really seem to appreciate the support and attention of learning in a one-to-one environment.

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[51] The lines on the global tasks are color coded, but are all black on the bridging task.

Synopsis

Why Antin became a young offender is not difficult to surmise given his developmental history. He was brought up by a single mom who treated him as a friend, rather than as her child, and consequently he was not parented - not provided with guidance or limits. His mother seemed to be involved in an antisocial lifestyle during his developmental years. He was neglected by his mother and physically abused by her boyfriends. He often changed schools, sometimes moving to a different school within the same school year, and was frequently suspended. He also started doing drugs at a relatively young age. Although his cognitive functioning did not suffer as much as one would have predicted from his life experiences, it is obvious that his language skills suffered, especially his oral language skills.

Like Darius, Antin seems to see being a YO as an alternative lifestyle, and one that suited his current needs. A few months after his release on a technicality, Antin was rearrested on several charges and eventually convicted of various property related offences as well as some breaches of probation, failure to stop a vehicle as ordered, possession of a concealed weapon, and robbery. He was subsequently released in March 2004, after serving a seven month custody sentence.

Synthesis and Interpretation

Given the short duration of remediation and the likely "entrenched" nature of their learning challenges, the gains they made seem remarkable, and serve as a testament to the effectiveness of the PREP. Prior to remediation, none of the five participants seemed to be aware of strategies or of their use. They appeared to have previously attributed any success they experienced to "luck," without realizing that as a rule most people automatically try to understand the "problem" and then come up with strategies to help solve it. They seemed quite fascinated by the idea that there could be some "trick/strategy" to apply to any given problem to solve it. This "new" way of thinking was especially obvious when they attempted to solve the different puzzles.

As can be seen, the road to becoming literate begins long before young children actually start formal instruction in conventional reading and writing tasks" (Marvin & Wright, 1997, p. 154; Morrow, 1999). Children develop literacy skills in relation to the home literacy environment (Marvin & Wright, 1997; Morrow, 1999). Given what we know of their home environment it is likely that these young people experienced cognitive, language and literacy deprivation and, delays. These are some of the unfortunate consequences of being brought up in an unstable chaotic home environment, where chronic abuse and starting to use drugs at an early age is the norm (Bolger & Patterson, 2001; Keith & McCray, 2002;Todis, Bullis, Waintrup, Schultz, & D'Ambrosio, 2001). Due to their home environment, they had little exposure to books, reading or being read to, prior to attending school. Understandably, there are potentially lasting delaying effects on development of coming from a home environment with limited pre-reading experiences (Snowling, Darius, Bowyer-Crane, & Tobin, 2000), especially in a society that values reading ability and education (Keith & McCray 2002). Reading to children not only helps them to develop reading abilities but also promotes language development (Blok, 1999; Frost, 2000; Molfese, Molfese & Modgline, 2001), because language development occurs as a result of the experience that children have with language that stimulates their language learning potential (Blok, 1999). Twenty five years of research findings strongly support the relationship between language abilities and reading achievement, and have revealed that oral language is more closely related to reading comprehension than is phonological awareness and rapid naming (Catts, Fey, Zhang, & Tomblin, 1999). This would certainly seem to be the case with these YOs, given that they demonstrated difficulties with oral language as well as with comprehension.

Obviously, inequities in learning opportunities begin at an early age (UNICEF, 2002). Typically, low income children begin first grade significantly below middle class children in oral language skills and reading (Eamon, 2002; Farkas, 2000), and the gap between poor and good readers widens very quickly once children start school (Webster & Feiler, 1998). For these children, school quickly becomes an institution where they enter a 'self-sustaining cycle in which their limited knowledge prevents them from benefiting fully from the classroom setting and contributes to their disruptiveness, further preventing them from making significant academic progress' (Keith & McCray, 2002, p. 694). Therefore, when considering the reading and language difficulties of these young men, one must not only consider the fact that they likely started school at a disadvantage, but also that their home environment has always been and continues to be significantly different from that of most children. In addition, they have suffered serious gaps in their educational knowledge and experience over time due to poor school attendance and frequent changes in schools[52]. As a result of all these factors, the experience they bring to school differs significantly from that of most children and young people attending. Their experience while at school also differed significantly from that of most other children who regularly attend. It is a well known fact that, of all children with difficulties/disabilities, conduct disordered children and delinquents are among the least welcomed in school (Guetzloe, 1993), by both staff and students. One can only imagine the subtle but very real impact of being required to regularly attend an institution where this atmosphere is prevalent, especially for already seriously disadvantaged children. Little wonder that not much learning occurs in this setting for these children.

Consequently, when we attempt to provide them with remedial education, we need to acknowledge the effects of years of chronic maltreatment, and the school experiences of these young people. We need to abandon the mindset that they have not learned in school to date simply due to lack of attendance. As can be seen, the problem is more complex than a simple lack of exposure. Most of these young people continue to have a history of failure in reading and math (Archwamety & Katsiyannis, 2000; Foley, 2001; Kroll, Bradley, Shah, Bailey, & Harrington, 2002; Malmgren & Leone, 2000) despite remediation, and the assumptions appear to be that they have not had sufficient exposure to regular schooling. As a result, the same methods and materials, albeit in differing formats, continue to be used to address their needs. These practices continue despite the fact that experience and research show that many if not most continue to experience difficulties with basic math concepts and reading. If they have finally learned to read, comprehension remains an overriding problem, because oral language skills are not addressed and their learning style continues to be inefficient/ineffective. It is not prudent to persist in educating them as if they had been raised in an "average" household, when nothing could be further from the truth.

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[52] Maltreated children move more often and consequently do more poorly in school (Lang, 1996).

Inasmuch as the source of the underachievement of these YOs is complex and multifaceted, and that they all have attended school "sparingly," any attempt at remediation needs to include basic academic skills. This is a point made abundantly clear by the scores of these five young men on the Operations subtest of the KeyMath. As for their reading scores, in this instance they were not as depressed as they might have been because their area of greatest difficulty had to do with comprehension rather than with the basics of reading per se, as is the case for many YO recidivists. Effective instruction for this population will need to be comprehensive, intense, multifaceted and include basic academic skills (Keith & McCray, 2002; Malmgren & Leone, 2000; White, 2002). Remediation will need to be considered as "alternative" education, taught in unconventional ways that consider not only the needs, but also the interest of these young people as well as being relevant to their experiences and their future (Athey, 2001; Daley & Onwuegbuzie, 2001; Hill, 1998; Keith & McCray, 2002). Some educators are realizing that what is needed for successful remediation, especially with those young people who have experienced little success with conventional educational methods, is a more comprehensive approach that considers intellectual, social, and emotional growth, as it relates to the development of the learner (Kinney, 2001).

For many YO recidivists, a developmental area that will need to be addressed in remediation to ensure success, is the use of strategies. As children mature, strategies should become more sophisticated and increase in use (Das & Nagliari, 1993). As stated earlier, it appears that YO recidivists are unable to extrapolate and/or internalize the necessary strategies for learning during the process of being taught with conventional methods Zinkus & Gottlieb, 1979). Therefore they are not able to develop the required foundation skills for continued higher learning (Hill, 1998). Without adequate strategy use they are doomed to ongoing academic failure in reading and comprehension as well as in other academic subjects. Indeed all five young men in the study were amazed at the idea of strategies, and that they could be so helpful in problem solving (specifically with puzzles, in their case). Although they did use some strategies, they were not aware of doing so and never appeared to apply them purposefully. Strategies are so important because they are the tools needed in the ongoing quest to acquire, store and utilize information (French & Rhoder,1992). Knowledge accumulates on the base of past experience that include both formally (instructed) and spontaneously (experientially) acquired knowledge (Das, 2002). Because strategy use is one of the major foundational skills necessary in the acquisition of knowledge, it must be part of any remedial program for YO recidivists.

CHAPTER 5

Clinician's Summary and Observations

The lives of the five young participants within this study provide evidence that is consistent with the previous findings in some cases, and that extends the literature in other cases. The following summary encompasses the collective results across the five cases, and discusses them within the context of the literature.

For example, based on the Literature Review, one might have predicted for this group: depressed academic achievement, poor school progress, a likely positive impact of PREP remediation on cognitive and academic tasks, and reduced rates of recidivism for at least eight months. What would not have been anticipated was the various language difficulties that all five participants initially displayed, and the subsequent increase in the language skills of the four who completed the PREP remediation. Post remediation scores in comprehension were also considerably improved. It seems quite amazing that a few sessions of learning about strategies, and verbalizing and internalizing them could have such a positive effect on the language skills of these five young men, and, to a lesser degree, their ability to comprehend.

Clearly, a great strength of these five young men, as well as of maltreated children in general, is their capacity to adapt (Kurtz, Gaudin, Wodarski, & Howing, 1993). This is apparently a skill born of necessity, and developed as a result of the unpredictability of their young lives. Because of this way of life they have had little opportunity to develop cognitive planning skills per se (as measured by the CAS), and/or use of strategies. Although the difference between the concepts of adapting and planning may appear subtle, it is very real for those involved. Planning implies the ability to anticipate consequences, through the analysis of consistent feedback, while adapting requires the ability to modify and adapt one's needs and behaviors to accommodate an ever changing environment. Given the context of their lives, it is quite understandable that many of these young men have had little opportunity to develop their planning skills. When one lives in an unstable and ever changing home environment, where the chance of being attacked on any given day or given moment is very real and ever present, there is little opportunity or need to learn how to plan, and even less use for strategies. One need not and indeed cannot plan or strategize when the only constant seems to be the capriciousness of those in charge. Something else that likely developed as a consequence of their life experiences is a certain style of "learning." They appeared to have mastered the art of "parroting" and memorization, rather than internalization of the material covered. They seem not to have had the opportunity to appreciate the advantages of understanding over memorizing. How they came to adopt this style of learning can be understood, in part, by the goal theory of motivation, which explains motivation as based on either mastery goals or performance goals. Mastery goals focus on self-improvement rather than comparison to others, while performance goals focus on comparison and competition as in school settings (Silverman & Casazza, 2000). Likely out of necessity born of their circumstances, the motivational goals of these young people appear to be based on performance rather than mastery. Goal theory states that performance goals "often focus on memorization without emphasis on problem solving or critical thinking and are directed towards short cuts and quick payoffs (Silverman & Casazza, 2000, p.92-

93)." The development of this style of learning would appear to make sense, given their life experiences. For children who constantly live with unpredictability, there is very little need or opportunity to understand at a deeper level than committing to memory what is happening here and now, and "parroting" back what is necessary in order to avoid yet another beating. Their life experiences would also seem to explain their lack of strategy use, prior to remediation. Strategies, like planning and understanding are of little value for these children.

The effects of memorization on comprehension can be more effectively understood through the use of the PASS theory, especially as it relates to their learning style. Most of these young men showed a "relative" strength in simultaneous processing – an essential skill for comprehension. However, because they were likely utilizing memorization rather than internalization, their ability to readily process information simultaneously still did not allow them to get a good sense of the "data" that needed to be brought together as a whole. Thus they continued to experience difficulty retrieving anything but the most basic of information from their simultaneous processing. Therefore, even though they showed a strength in simultaneous processing their comprehension remains quite limited, despite adequate successive processing skills, for the most part. Successive processing is required for the basic decoding processes (along with attention) to essentially "get the data necessary for comprehension" into the data processing system. Perhaps as a result of their learning style, successive processing often remains an area of difficulty for some of these young people, despite adequate successive processing skills.

To further understand how memorization rather than understanding might affect simultaneous and successive processing one can turn to the theory of meaning systems/schemata (Silverman & Casazza, 2000). A schema or meaning system is a complex idea structure that exists in the mind and is made up of related ideas, sets of beliefs, theories and assumptions based on experience. Schemata or meaning systems in turn become filters through which incoming information is processed (Silverman & Casazza, 2000). A schema then serves as a framework for making sense of incoming information. The difficulty with developing schemata or meaning systems as a result of memorization is that information and, as a consequence, related ideas and assumptions, are likely to be organized without critical reflection or careful thought. Consequently new experiences and information will be processed in the same manner (Silverman & Casazza, 2000). This makes it very difficult to connect new information to existing knowledge and schema in any meaningful way. As such, reading comprehension, as well as comprehension of life events in general would become very difficult and likely quite limited. Learning through memorization can be likened to having an extremely poor filing system where needed information is found more by chance than by design. Under these circumstances (memorization), connecting new information to existing schema would be more a matter of chance than based on established connections, and would likely lead to a type of sporadic comprehension, where some things only make sense some of the time. This idea would be consistent with the individual testing profile of each participant, for example where in certain areas there were few coherent patterns to be found based on pre and posttest scores. Ongoing comprehension, on the other hand, is the result of the successful integration of new information and prior experience and knowledge. This is the process by which one's knowledge base is continually expanded and enriched.

Without this practiced ability to integrate the "old" with the "new," one's comprehension remains quite limited as does one's ability to significantly impact his/her environment. In light of these theories, one can certainly better appreciate why many of these young people so often attribute their success to luck and their failure to sources outside of their control and dependent on chance. " What is known about attribution theory is that how a person explains success or failure is more important than how often he or she has failed (Silverman & Casazza, 2000, p.23)." To continually perceive having so little control over one's life, especially when combined with schemata/meaning systems that fail to become increasingly refined with time and experience, can only serve to make a difficult life more so with each passing day. Such difficulties are likely compounded for YO recidivists by complex cognitive difficulties and lack of ability to utilize strategies.

Given everything that we have come to know about these young men, what seems remarkable is not that they have behaved as they have, but rather that they have survived these life experiences as well as personal deprivation and still demonstrate a capacity for caring, for reaching out, and for trying to better themselves. This is especially remarkable in light of the fact that the first bully any of these young men encountered was a parent or parent figure with whom they lived. Also remarkable is their willingness to continue with their schooling, despite many prior negative school experiences. What surprised me the most about these young men, during the study, was how considerate they were as well as how committed they all were to helping me with my study. Yves attempted to schedule his first visits, after 31.5 months of incarceration, so that they would not interfere with his remedial sessions, or posttesting. Darius offered to "fix" the results, but more than that he was willing to give up watching a much anticipated movie with his peers to honor his commitment to this study[53]. Antin always let me know in advance when he would not be there for his sessions, due to various court appearances. Erwin took care of his morning duties on the unit as quickly as possible so that he could maximize his time in his remedial session, before leaving for a full day's work. After his release from EYOC, Helmut donated his day off from his full time job to come and participate in posttesting. This is quite remarkable, given their backgrounds, but not unheard of for maltreated children who tend to show an all-or-nothing pattern of trusting and sharing (Bernath, Feshback, & Gralinski, 1993). Theoretically speaking, their motivation and dedication to this study could be linked back to attribution theory (previously mentioned) and goal theory. Attribution theory centers on students' beliefs about why they succeed or fail. In this case, these young men would seem to have been motivated because they attributed their success to their efforts and ability, as well as to task difficulty (Weiner, 1984, 1990). Their motivation could be explained further by the goal theory, also previously mentioned, which explains motivation as based on either mastery goals or performance goals. During the study, these young men were never in a situation where they directly had to compete with anyone else. It was individualized learning at its best, because they could really focus on mastery and self-improvement instead of on how well or how poorly they were doing compared to the other participants.

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[53] I arranged to meet with him at a later time so that he would not have to miss his movie.

Regardless of the reasons for their willingness to participate, I was indeed touched by their kindness and consideration, and I am very grateful to these young men who were so instrumental in making this study a reality for me. Without their efforts none of this would have been possible. I could not have asked for a better group to work with. Overall this was an invaluable experience for me. I learned more than I would ever have imagined. I really like working with this population and they never cease to amaze me, no matter how well I get to know them. Needless to say, I very much enjoyed my time with these young men, and my only regret is that there were not more young men and more time.

Clinical Implications

In addition to the relevance offered through the PASS theory and the CAS and PREP, successful remediation will also have to include a component that addresses comprehension issues in a manner suited to this population. We need to be thoughtful of the fact that young offenders are still adolescents, many of whom are experiencing delayed cognitive development, as a result of being brought up in unstable chaotic homes, chronic abuse and/or neglect, and early drug use (Bolger & Patterson, 2001; Keith & McCray, 2002;Todis, Bullis, Waintrup, Schultz, & D'Ambrosio, 2001). The effects of chronic maltreatment and neglect over multiple developmental periods can also lead to an impaired capacity to master developmental tasks such as regulation of emotion and behavior and forming prosocial relationships (Bolger & Patterson, 2001). Also to be taken into account are the potentially lasting delaying effects on development of coming from a home environment with limited pre-reading experiences (Snowling, Darius, Bowyer-Crane, & Tobin, 2000), especially in a society that values reading ability and education (Keith & McCray 2002). To date we have basically failed to acknowledge the fact that the life experience of young offenders is inherently different from that of most children who attend school. Due to chronic maltreatment and abuse and the environment that they grew up in, not only the experience, but also the knowledge that they bring to school differs considerably from the experience and knowledge that the "average" child in society brings when he/she attends school. As well as having experienced difficult life circumstances at home, these children have also had little opportunity to experience those conditions necessary for successful school adjustment, due to high mobility, and lack of attendance. Frequent changes in the schools they have attended, combined with high rates of truancy as well as numerous suspensions and expulsions have not only had a negative impact on their school performance, but have also created further gaps in their educational knowledge and experience (Veltman & Browne, 2002; White 2002).

Effective instruction for this population will need to be comprehensive, intense, multifaceted and include basic academic skills (Keith & McCray, 2002; Malmgren & Leone, 2000; White, 2002). This was the reasoning behind using PREP for remediation. However, in order to more effectively meet the needs of this diverse population we will also need to acknowledge a "sociocultural theory of literacy. A theory that considers literacy not only as an act of reading, writing, and thinking, but also as a construction of meaning from printed text … that seeks to understand the cultural context within which these adolescents have grown, and developed (Keith & McCray, 2002, p.700)." Remediation will need to be considered as "alternative" education, taught in unconventional ways that consider not only the needs, but the interest of these young people in addition to being relevant to their experiences and their future (Athey, 2001; Daley & Onwuegbuzie, 2001; Hill, 1998; Keith & McCray, 2002;). Learning theory would suggest that this is true for *all* students – but in this case we have not gone the extra step in recognizing the unique nature of their previous environment, and hence their unique learning needs. The goal of educating these young people must be to help decrease or eliminate the difficulties that led to delinquency, as well as to help them develop the skills necessary to enable them to become productive contributing members of society (Keith & McCray, (2002).

Given their previous negative experiences with school, education that focuses on enjoyment and relevance as well as competency will ensure that learning becomes something that they enjoy doing, rather than the "task" it has been in the past. As such, they are more likely to continue wanting to learn, thus making it possible for them to eventually avail themselves of some of the rewards and joys that come from continued learning. Experiencing real success in areas previously fraught with difficulties can lessen the negative influences of prior experiences as well as the need for drugs and negative peers. The less they have in common with negative peers, the less likely they are to gravitate towards them and/or be influenced by them. Increased reading ability and comprehension will also mean increased cognitive growth and competence, as well as increased opportunity and less restrictive job opportunities (Keith & McCray, 2002; Snowling et al. 2000).

Although the literature is replete with findings of the substantial relationships between school failure and juvenile delinquency (Keith & McCray, 2002), as well as recidivism (Archwamety & Katsiyannis, 2000), there is little written about the role of schools in perpetuating delinquency. If we are serious about helping these young people then we cannot continue perpetuating this grievous "oversight." Although schools were of course not intentionally designed to promote and/or sustain delinquency, unfortunately this has become one of the unintended consequences of this system for children who are at risk for academic failure due to an unfortunate and often compounding set of variables. For these children, schools have now become institutions where they enter a 'self-sustaining cycle in which their limited knowledge prevents them from benefiting fully from the classroom setting and contributes to their disruptiveness, further preventing them from making significant academic progress' (Keith & McCray, 2002, p. 694). Initially, when these children start school, efforts are usually made to assess difficulties and provide the necessary help. However, as they get older their behaviour, rather than what is driving that behaviour, as well as their academic difficulties are most often the salient factors that determine what transpires at school. It is a well known fact that of all children with difficulties/disabilities, conduct disordered children and delinquents are among the least welcomed in school (Guetzloe, 1993), by both staff and students. One can only imagine the subtle but very real impact of being required to regularly attend an institution where this atmosphere is prevalent, especially for already seriously disadvantaged children. Little wonder that young offenders often cite their primary reasons for disliking school as frustration and boredom[54] (Keith & McCray, 2002).

Ongoing research aimed at addressing similar difficulties with incarcerated youth has shown that they not only respond well, but actually thrive when provided with the appropriate situation in which to develop their abilities to comprehend and to express themselves both orally and in writing (Hill, 1998). These findings are based on the result of ongoing research predicated on the idea that the language of these young men comes with strong words, that they value strong talk, bragging and bantering, and therefore need powerful stories and poetry if they are to respond and learn. As a result, these researchers built a language program based on these young men's feelings of fear, anxiety, embarrassment, and being bullied. They realized that using books in which those themes were addressed provided these young people not only with pertinent medium, but also with relevant models to emulate, respond to, and learn from. They found that, "Indeed stories, and linking these stories to life, to lessons, and to morality were the only meaningful pedagogical tools" (Hill, 1998, p.199)… available when working with this population. As with any other population, success was attainable when relevant materials that these young people could relate to were utilized.

This approach offers more than the opportunity to learn to read, write and develop oral skills. It offers the young people involved a chance to express "their thoughts" and process "their issues" as they see them, with interested adults and befitting literary role models. It also offers them the opportunity to be self-reflective, an important component of change. It seems an ideal way not only to learn language arts, but to deal with relevant issues as well. This method of schooling, for these young people, would seem particularly appropriate when one considers it through the lens of Winnicott's thought on a complementary theory of delinquency. Winnicott sees persistent delinquency in a small number of offenders as inherently linked to personal deprivation. Although the effects of deprivation can never be nullified, they can be mitigated once the personal and specific deprivation is essentially identified and spoken about (Winnicott, 1986)[55]. Hill's (1998) content and process would seem to offer these young people the opportunity to deal with their own personal and specific deprivation, to be part of this process with and for their peers, as well as providing them much needed help with language arts input. This type of approach when combined with the PASS, CAS and PREP, would meet all the requirements needed for a successful program as previously outlined in the literature review. A final issue to consider in any successful program is the role of the remediator (therapist). Being able to establish a successful working alliance with theses young men is crucial, as the quality of this alliance can determine, to a great extent, the outcome for all involved.

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[54] This has been a very common response from young offenders I've worked with over the years.

Limitations and Directions for Future Research

Several limitations in this study can help clarify directions for future research. One limitation is the size of the sample, as it was very small, and made up entirely of volunteers. Another limitation is the time spent on remediation. Three of five participants received eight weeks of intervention, one participant received 4.5 weeks, and the other participant received only four weeks of intervention, before being released. (Unanticipated release is a "limitation" of working with this population). Another limitation, and possible compounding factor, was the fact that all five participants were attending school during remediation. Consequently the possible effect of this must be taken into account when considering the results, even though the influence was likely negligible. It would certainly be of interest to replicate this method, allowing a lengthier remedial period. As well, due to the fact that all participants were volunteers who could read, they may have been somewhat high functioning than would be typical for the intervention that I had chosen.

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[55] Winnicott's theory basically emanates from a psychoanalytic framework.

The findings of this study contribute to the knowledge in the area of young offender recidivists. They enrich the findings of previous studies that have identified the link between sensory/perceptual processing and early and persistent delinquency, by identifying the PASS as a theoretically based model on which to base assessment and remediation of sensory/perceptual processing difficulties in YO recidivists, especially as it pertains to successive processing deficits. They also add to the knowledge base pertaining to how and why YOs end up with such pervasive difficulties, by providing detailed analyses of the interplay between the various factors of their lives and environments (both home and school).

Future research may include a replication of the present case studies of YOs, with lengthier remediation. It would also be of interest to follow YO recidivists with more severe difficulties in basic reading, as well as comprehension. Through publications, dissemination of the knowledge acquired as a result of systematic research could further inform research and practice on viable programs for successful remediation of language, reading, and comprehension difficulties, with YO recidivists.

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APPENDIX A

FACULTIES OF EDUCATION AND EXTENSION RESEARCH ETHICS BOARD

Graduate Student Application for Ethics Review

Name: Louise Anderson-Pawlina **Student ID:** 825694

E-mail: louise@ualberta.ca

Project Title: A Case Study of Sensory/Perceptual Processing Deficits in Young Offender Recidivists

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Project Deadlines:

Starting date June 1, 2002 Ending date June 1, 2003

If your project goes beyond the ending date, you must contact the REB in writing for an extension.

Status:

☐ Master's Project ☐ Master's Thesis ☑ Doctoral Thesis ☐ Other: (Specify)

The applicant agrees to notify the Research Ethics Board in writing of any changes in research design after the application has been approved.

L. Anderson-Pawlina
Signature of Applicant Date 11 April 2002

The supervisor of the study or course instructor approves submission of this application to the Research Ethics Board.

Vern Snart
Signature of Supervisor/Instructor Date 12 april 02.

ETHICS REVIEW STATUS

☑ Review approved by Unit Statutory member/Alternate

☐ Review approved by Research Ethics Board

☐ Application not approved

Signature of REB Member

May 13, 2002
Date

FACULTIES OF EDUCATION AND EXTENSION
RESEARCH ETHICS BOARD
(EE REB)

Request for Change in Research Study

(revised June 24 03)

Submit this form to your statutory member of the EE REB for any proposed changes in the approved methodology and/or timeline of your research. Attach the complete application originally approved by the EE REB.

Applicant Name: Laurie ANDERSON Email: laurie@ualberta.ca

Project title: a case study of sensory/perceptual processing deficits in young offender recidivists.

Original start date (year/month/date): June 1/02 Original end date (year/month/date): June 1/03

Have you received approval from the EE REB to change this study previously? Yes ( ) No (✓)

If yes, attach the approved *Request for Change in Research Study* form.

What change(s) to the study is/are being proposed?

(✓) New end date (year/month/date): Feb 28/04

( ) Method

Briefly summarize a) progress on your study to date, and b) rationale for the requested change(s). (please see attached)

LA

Signature of Applicant

21 Aug 2003

Date

Name and Signature of Supervisor/Instructor

21 Aug, 2003

Date

Change Status

(✓) Change approved by EE REB member

( ) Change approved by EE REB

( ) Change not approved

Signature of EE REB Member

Aug 28, 2003

Date

Distribution: Original to EE REB file; Copies to applicant, Supervisor/Instructor (if applicable), Unit student file (if applicable)

This Agreement made this 22 day of July 2002

BETWEEN:

HER MAJESTY THE QUEEN
in Right of the Province of Alberta
as represented by the Solicitor General
(hereinafter referred to as the "Public Body")

-and-

Louise Anderson-Pawlina
(hereinafter referred to as the "Researcher")

WHEREAS the Freedom of Information and Protection of Privacy Act, S.A. 1994, c.F-18.5 (hereinafter referred to as the "Act") came into force on October 1, 1995;

AND WHEREAS, the Public Body has custody or control of records containing personal information subject to the Act;

AND WHEREAS the Researcher requests access to personal information for research purposes;

AND WHEREAS the Public Body may under the Act disclose personal information for a research purpose only if the person to whom the information is disclosed has signed an agreement to comply with the approved conditions, the Act and the policies and procedures relating to the confidentiality of the personal information of the Public Body;

THEREFORE the parties hereto covenant and agree as follows:

1. **Definitions**

In this Agreement:

(a) "Personal Information" means recorded information about an identifiable individual, including

- (i) the individual's name, home or business address or home or business telephone number;
- (ii) the individual's race, national or ethnic origin, colour or religious or political beliefs or associations;
- (iii) the individual's age, sex, marital status or family status;
- (vi) an identifying number, symbol or other particular assigned to the individual;
- (v) the individual's fingerprints, blood type or inheritable characteristics;
- (vi) information about the individual's health and health care history, including information about a physical or mental disability;

(viii) information about the individual's educational, financial, employment or criminal history, including criminal records where a pardon has been given;

(ix) the individual's personal views or opinions, except if they are about someone else;

(b) "Proposal" means the Proposal to Access Personal Information for Research or Statistical Purposes completed by the Researcher and approved by the Public Body;

(c) "records" means records containing Personal Information accessed by the Researcher under this Agreement for the research purpose; and

(d) "research purpose" means the purpose set out in section 6(1).

2. Incorporation of Proposal

The Researcher agrees that the Proposal appended to this Agreement is an integral part of this Agreement, that the information contained therein is accurate and complete, and that he shall comply fully with the terms thereof.

3. Representations and Warranties By Researcher

The Researcher represents and warrants that the research purpose cannot reasonably be accomplished unless the information is provided in individually identifiable form, that any record linkage is not harmful to the individuals the Personal Information is about, and that the benefits to be derived from the record linkage are clearly in the public interest.

4. Records Requested

The Contractor agrees that the Public Body shall provide access to only those records set out in the Proposal, and that any changes or additions to those records shall require the written approval of the Public Body.

5. Security and Confidentiality

(1) The Researcher agrees that he/she shall:

(a) protect and hold in confidence all Personal Information furnished to the Researcher by the Public Body;

(b) maintain accurate and up-to-date records of the number and location of all copies of the Personal Information;

(c) prevent and protect the Personal Information from unauthorized disclosure, use, possession or knowledge by his employees, agents, consultants or other persons;

(d) take all reasonable steps to keep the Personal Information in a secure location to which access is given only to persons authorized to have access under this Agreement, and ensure that no person authorized to have access shall make any unauthorized copy of the Personal Information;

(e) notify the Public Body in writing immediately of the unauthorized disclosure, use, possession or knowledge of the Personal Information by any person not authorized by the Public Body, and he shall promptly furnish the Public Body with full details of such unauthorized disclosure, use, possession or knowledge to the extent known by the Researcher. The Researcher shall take reasonable steps to prevent the recurrence of the unauthorized disclosure, use, possession or knowledge;

(f) ensure, prior to disposing of any media, that any Personal Information contained thereon shall have been erased or destroyed and shall further keep records of all such disposal; and

(g) provide all records referred to in paragraphs (b) and (f) with respect to the Personal Information to the Public Body at all reasonable times at the request of the Public Body, and he shall provide a statutory declaration with respect to the truth and accuracy thereof.

(2) The Researcher agrees that apart from himself/herself, only the following persons will have access to the Personal Information in a form which identifies or could be used to identify the individuals to whom it relates:

Gail Neufeld - psychological assistant who is currently working for the Centerpoint Program, and who will be doing the testing. CV appended.

(3) The Researcher agrees that before any Personal Information is disclosed to any of the persons referred to in subsection (2), he/she shall obtain a written agreement from each of them to ensure that they will not disclose that Personal Information to any other person and that they will be bound by all the terms and conditions of this Agreement. The Researcher further agrees to keep a copy of each such agreement and to forthwith provide a photocopy thereof to the Public Body.

(4) The Researcher agrees that none of the records, including copies of them or notes containing Personal Information taken from them, will be left unattended at any time, except as set out in subsections (5), (6), or (7), and further agrees that if he/she is accessing records on the premises of the Public Body he/she shall comply with the Public Body's security procedures.

(5) The Researcher agrees to keep any copies of the records, and any notes which contain Personal Information taken from them at the following address(es), and shall not be removed there from without the prior written consent of the Public Body:

RR 2 Kingman, Alberta - in my home safe (Sentry 1380 with combination lock) to which I alone have the combination.

(6) The Researcher agrees that physical security at the premises referred to in subsection (5) will be maintained by ensuring that the premises are securely locked, except when one or more of the individuals referred to in subsection (2) are present, and by the following additional measures (e.g. locked filing cabinet):

Safe with combination lock as described above.

(7) The Researcher agrees that if he/she maintains individually identifiable information from the records on a computer system to which users other than individuals identified in subsection (2) have access, he/she shall restrict access through the use of passwords, and by other security measures which prevent unauthorized access and trace such unauthorized access, including the following methods:

No identifying personal information will be entered into the computer.

(8) The Researcher agrees to permit an authorized representatives of the Public Body to carry out on-site visits where records are maintained and such other inspections or investigations that it deems necessary to ensure compliance with the terms of this Agreement.

6. Use

(1) The Researcher agrees to use any Personal Information received from the Public body only for the following stated purposes:

Research - specifically the stated proposal

(2) The Researcher shall not contact or attempt to contact by any means any individual to whom the Personal Information relates, directly or indirectly, without the prior written authorization of the Public Body.

(3) The Researcher shall ensure that no Personal Information will be used or disclosed in a form in which the individual to whom it relates can be identified without the prior written authorization of the Public Body, and without restricting the generality of the foregoing:

   (a) any case file number or other individual identifiers to be recorded on computer shall be created by myself or one of the individuals listed in section 5(2) and will not relate to any real case number found in a record, and any such identifiers are to be used for statistical purposes only; and

   (b) no case file numbers or other individual identifiers assigned for the research purposes shall appear in any other work.

(4) The Researcher shall ensure that identifiable Personal Information about an individual is not used for an administrative purpose directly affecting the individual.

(5) The Researcher agrees that no Personal Information which identifies or could be used to identify an individual to whom it relates shall be transmitted by means of any telecommunication device, including telephone, fax or modem.

7. Responsibility of Researcher

The Researcher agrees that he/she is fully and solely responsible:

(a) for the actions of each of his employees, agents, consultants and other persons with respect to the disclosure and use of Personal Information whether or not the person is or was acting within the scope of his employment; and

(b) for any unauthorized disclosure or use of Personal Information which occurs through or by the disclosure of Personal Information from the Public Body to the Researcher regardless of the cause unauthorized use or disclosure during and after the term of this Agreement.

8. Term

This Agreement shall be in force from September 1, 2002 until September 1, 2003, unless earlier terminated under section 10.

9. **Indemnity**

(1) The Researcher shall indemnify and hold the Public Body harmless from and against all costs, claims, damages, expenses or liabilities suffered, sustained, paid or incurred by the Public Body as a result of any breach of any covenant or agreement herein contained, any representation or warranty by the Researcher being incorrect or incompleted, or with respect to any claim by a third party against the Public Body for any loss, cost, damage or expense incurred as a result of any act or omission of the Public Body. Without limiting the foregoing, such indemnity shall include damages awarded in any action or proceeding together with the reasonable fees and expenses of legal counsel incurred in connection therewith.

(2) Such indemnification shall survive the termination of the Agreement.

10. **Termination**

(1) A breach of any covenant, warranty or agreement herein contained pertaining to the Personal Information and the disclosure or use thereof, including any unauthorized use of the Personal Information, shall entitle the Public Body to terminate any and all existing agreements including this Agreement without notice.

(2) Nothing herein shall be deemed to limit in any way the Public Body's remedies for the breach of this Agreement of any unauthorized disclosure, use, or possession of the Personal Information.

(3) The Researcher acknowledges that if he/she fails to meet the conditions of this Agreement he/she may be guilty of an offence under section 86(1) of the Act.

11. **Destruction of Personal Information**

(1) On or before September 1, 2003 or upon termination of this Agreement pursuant to section 10, the Researcher shall remove and destroy all individuals identifiers associated with the Personal Information.

(2) The Researcher shall provide the Public body with a statutory declaration within 30 days of the removal and destruction declaring that removal and destruction of the Personal Information has occurred.

12. **Final Report**

The researcher agrees to provide the Public Body with a copy of the final report prepared pursuant to this Agreement upon the completion of the report.

13. Assignment

This Agreement is not assignable by the Researcher in whole or in part.

14. Entire Agreement

This Agreement embodies the entire agreement of the parties and no understandings or agreement, verbal or otherwise, exist outside of this Agreement.

15. Severability

If any provision of this Agreement is deemed to be illegal or invalid or contrary to the law, then that portion of this Agreement shall deem to have been severed from the remainder of this Agreement.

16. Validity and Interpretation

The validity and interpretation of this Agreement is to be governed by the laws in force in the Province of Alberta.

17. Binding

This Agreement is binding on the heirs, successors, and assigns of the parties hereto.

IN WITNESS WHEREOF the parties have executed this Agreement on the date first above written.

SIGNED AND DELIVERED
the presence of:

J. Porasiuk

HER MAJESTY THE QUEEN
in Right of the Province of Alberta as
Represented by the Solicitor General

SIGNED AND DELIVERED
in the presence of:

A. Stewart

THE RESEARCHER

APPENDIX B

Consent to Participate in Research Project

Dear Young Person:

You are being invited to participate in a research project to assess and remediate learning difficulties. The purpose of this study is to assist in understanding the way in which you process the information you receive, and subsequently offer different methods to help you process information in a more effective way. Ultimately, this should allow you to more efficiently utilize the information you receive, and to communicate more effectively. It may also be beneficial in helping you reduce your involvement with the law. The research will be carried out as stated below, and there is no deception involved. You will not gain increased privileges or receive preferred treatment as a result of your participation in the study. If you agree to participate you will be expected to make yourself available at the appointed times, and to participate to the best of your ability so that the results obtained are as true and accurate as possible. Participation in the project may be terminated if there are problems with your behavior. You are also free to withdraw from the study at any time without having to give a reason and without affecting your future care.

I am currently completing my PhD in Educational Psychology at the University of Alberta. This research project is a part of my program. Participation in data collection is strictly voluntary. You have the right to opt out of the study at any time (before, during, after) without penalty. Withdrawal from participation will not impact my final course grade. Should you have concerns that I have failed to address before or during the study, please feel free to contact my supervisor Dr. Fern Snart at the University of Alberta at 492-3751.

Information will be gathered from several sources. This research project is expected to last approximately 10 weeks. The assessment component will involve the Cognitive Assessment System, Test of Adolescent/Adult Language-3, Woodcock Reading Mastery, and Keymath Diagnostic Arithmetic Test. The remediation component will involve 20 sessions where you will have the opportunity to learn new strategies for processing incoming information, as outlined in the PASS Reading Enhancement Program. Each session is expected to last approximately 25 minutes. I will record the audio of the 20 session, so that I can better understand what you are doing. I will also use anecdotal records for each session, and I will ask you to share with me your evaluations and feelings of the remedial sessions. As well, you will be provided with an opportunity to give me ongoing feedback on my observations. Eight months after the research is completed I will access your justice records to ascertain whether or not you have reoffended. Once the study is completed, the results will be available to you upon request.

Your right to confidentiality will be addressed by using codes in lieu of names, and every effort will be made to maintain utmost privacy. Each participant will be assigned a number code at the beginning. Thereafter only the researchers will have access to the master list which will contain the codes and the corresponding names. The master list will be destroyed once the study is deemed completed by the researcher. All data obtained will be stored under lock and key when not in use. While data is being obtained it will initially be coded, and then in the personal care of researchers or assistants.

Once the research is completed the results will also be submitted to a scholarly journal for publication, as well as being included in my thesis. The same degree of anonymity and confidentiality will be observed for secondary data as will be used in the study. If you have any questions or concerns please feel free to contact me 428-4524 Ext 228, or my supervisor Dr. Fern Snart at 492-3751.

Thank-you for your time and patience.

Title of Project: A Case Study of Sensory/Perceptual Processing Deficits in Young Offender Recidivists

Please indicate your response below:
___Yes, I agree to participate in the research project described above.
___No, I would prefer not to participate in the research project described above.
Signature of Research Participant: ______________________________

Printed Name: ______________________________

Date: ______________________

Signature of Witness: ____

Signature of Investigator: ___________________________________

Consent for Your Son or Daughter to Participate in Research Project

Dear Parents/Guardians:

Your son or daughter is being invited to participate in a research project to assess and remediate learning difficulties. The purpose of this study is to assist in understanding the way in which your son or daughter processes the information he/she receives, and subsequently offer different methods to help him/her process information in a more effective way. Ultimately, this should allow him/her to more efficiently utilize the information he/she receives, and to communicate more effectively. It may also be beneficial in helping your son or daughter reduce his/her involvement with the law. The research will be carried out as stated below, and there is no deception involved. You son or daughter will not gain increased privileges or receive preferred treatment as a result of his/her participation in the study. If you agree to have your son or daughter participate he/she will be expected to make himself/herself available at the appointed times, and to participate to the best of his/her ability so that the results obtained are as true and accurate as possible. Participation in the project may be terminated if there are problems with your son or daughter's behavior. You son or daughter is also free to withdraw from the study at any time without having to give a reason and without affecting his or her future care.

I am currently completing my PhD in Educational Psychology at the University of Alberta. This research project is a part of my program. Participation in data collection is strictly voluntary. Your son or daughter has the right to opt out of the study at any time (before, during, after) without penalty. Withdrawal from participation will not impact my final course grade. Should you have concerns that I have failed to address before or during the study, please feel free to contact my supervisor Dr. Fern Snart at the University of Alberta at 492-3751.

Information will be gathered from several sources. This research project is expected to last approximately 10 weeks. The assessment component will involve the Cognitive Assessment System, Test of Adolescent/Adult Language-3, Woodcock Reading Mastery, and Keymath Diagnostic Arithmetic Test. The remediation component will involve 20 sessions where your son or daughter will have the opportunity to learn new strategies for processing incoming information, as outlined in the PASS Reading Enhancement Program. Each session is expected to last approximately 25 minutes. I will record the audio of the 20 session, so that I can better understand what he/she is doing. I will also use anecdotal records for each session, and I will ask your son or daughter to share with me his/her evaluations and feelings of the remedial sessions. As well, he/she will be provided with an opportunity to give me ongoing feedback on my observations. Eight months after the research is completed I will access your son or daughter's justice records to ascertain whether or not he/she has reoffended. Once the study is completed, the results will be available to your son or daughter upon request.

Your son or daughter's right to confidentiality will be addressed by using codes in lieu of names, and every effort will be made to maintain utmost privacy. Each participant will be assigned a number code at the beginning. Thereafter only the researchers will have access to the master list which will contain the codes and the corresponding names. The master list will be destroyed once the study is deemed completed by the researcher. All data obtained will be stored under lock and key when not in use. While data is being obtained it will initially be coded, and then in the personal care of researchers or assistants.

Once the research is completed the results will also be submitted to a scholarly journal for publication, as well as being included in my thesis. The same degree of anonymity an confidentiality will be observed for secondary data as will be used in the study. If you have any questions or concerns please feel free to contact me 428-4524 Ext 228, or my supervisor Dr. Fern Snart at 492-3751.

Title of Project: A Case Study of Sensory/Perceptual Processing Deficits in Young Offender Recidivists

Please indicate your response below:

___Yes, I agree to have my son or daughter participate in this research project.

___No, I would prefer not to have my son or daughter participate in this research project.

Signature of Research Participant's Parent/Guardian:

Printed Name: ______________________________________

Date: _____________________

Signature of Witness: ____

Signature of Investigator: ___________________________________

APPENDIX C

ANECDOTAL RECORD FORM

NAME____ DATE ____________________

(PREP) TASK ________________________

1. When he completed the task, did he appear to find it : easy difficult frustrating

2. Was he able to complete most items with minimal assistance? Yes No

3. Did he appear to be using some strategies to complete the items? Yes No

If yes, what were some of the strategies observed? ______________________________

____

____

4. When asked, was he able to explain the strategies that he was using? Yes No

If yes, what were some of the strategies reported? ______________________________

____

EXAMINEE CHARACTERISTICS

	Good				Poor
A. Mood	1	2	3	4	5
B. Energy level	1	2	3	4	5
C. Attitude towards task	1	2	3	4	5
D, Confidence	1	2	3	4	5
E. Rapport with examiner	1	2	3	4	5
F. Perseverance	1	2	3	4	5
G. Visual acuity	1	2	3	4	5
H. Hearing acuity	1	2	3	4	5
I, State of health	1	2	3	4	5
J. Speed/Style of response	1	2	3	4	5

Comments ____

____

ENVIRONMENTAL CONDITIONS

	Not interfering				Interfering
A. Noise level	1	2	3	4	5
B. Interruptions	1	2	3	4	5
C. Distractions	1	2	3	4	5

Comments ____

____

APPENDIX D

QUESTIONNAIRE

IDENTIFYING DATA AND LEGAL STATUS

Name: ______________________________ **File #:** _____________ **DOB:** ______________

Age: ___________ **Interview Dates:** ____

Release signed by patient, parent or guardian? Yes No

Warnings given to patient re: confidentiality? Yes No

Reason for referral:

Attitude toward treatment:

Legal Status:

Custody expiry date: ______________ Open/Secure Probation expiry date: ______________

Counselling condition? Yes No

Court case(s) pending? Yes No
If yes, date(s) and reason(s):

CRIMINAL OFFENCES

Present offence/target behavior (official and patient's version)

Criminal history: List offences from first to last.
(Offence, date occurred, motives, substance abuse, alone, peers, gang, sentence, compliance)

MENTAL HEALTH HISTORY

Antisocial behavior (Aggression to people and animals; destruction of property; deceitfulness and theft; violations of rules; oppositional/defiant behavior)

Substance abuse history (substances; onset; frequency; use, abuse, dependence; motives, personal gain; attitude; trafficking; treatment)

Other mental health problems/treatment (Nature, onset, duration of past or current mental health problems, associated circumstances or stressors)

Physical or Sexual Abuse:

Physical Yes No Comments:

Sexual Yes No Comments:

Suicidality:

Previous suicide attempts? Yes No Comments:

Previous suicide ideation? Yes No Comments:

Suicide risk: Yes No Comments:

FAMILY HISTORY

Genogram (Family members; demographic date; history of substance abuse, physical/sexual abuse, criminal involvement, genetic history; marital history)

Parenting (rules; parental control; response to anti-social behavior; patient's response to parenting; parental style; family dynamics)

PERSONAL HISTORY

(Placement and significant life events; pregnancy and birth; developmental milestones; emotional and behavioral problems; physical health)

School

(Number of schools attended; current grade; pass/failure of grades; strengths and weaknesses; special education; learning disability; psychometric/scholastic assessment; suspensions/expulsions; school attendance; relationship with teachers)

Peer Relations

(Antisocial/criminal behavior; gang/organized crime involvement; pro-social peer involvement and influence)

Employment/Source of Money

Ethnic and Religious Values

Interests (Sports, music, hobbies, etc.)

Personality

MENTAL STATE EXAMINATION

(Physical appearance; insight and acceptance of responsibility; affect; mood; suicidal/homicidal ideation; thought form and flow; delusions; hallucinations; cognitive functioning)

Matters requiring clarification or immediate action:
(Special investigations; psychological assessment; external referrals)

Strengths, positive factors/weaknesses, negative factors:

APPENDIX E

Descriptive Categories of Standard Scores

CAS

Standard Scores	Descriptive Categories
130 and above	Very Superior
120-129	Superior
110-119	High Average
90-109	Average
80-89	Low Average
70-79	Below Average
69 and below	Well Below Average

TOAL

Standard Scores	Descriptive Categories
131-165	Very Superior
121-130	Superior
111-120	Above Average
90-110	Average
80-89	Below Average
70-79	Poor
35-69	Very Poor

KeyMath

Standard Scores	Descriptive Categories
125 and above	Markedly Above Average
111-124	Above Average
90-111	Average
76-89	Below Average
75and Below	Markedly below Average